

Cherry Hill Mortgage Investment Corporation

## Second Quarter 2018 Investor Presentation

August 8, 2018

## Legal Disclaimer

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CAUTIONARY NOTE REGARDING EXPECTED RETURNS AND EXPECTED YIELDS. Expected returns and expected yields are estimates of the annualized effective rate of return that we presently expect to be earned over the expected average life of an investment (i.e., IRR), after giving effect, in the case of returns, to existing leverage and existing hedging costs, and calculated on a weighted average basis. Expected returns and expected yields reflect our estimates of an investment's coupon, amortization of premium or discount, and costs and fees, as well as our assumptions regarding prepayments, defaults and loan losses, among other things. In the case of Servicing Related Assets, these assumptions include, but are not limited to, recapture rates, prepayment rates and delinquency rates. Income recognized by the Company in future periods may be significantly less than the income that would have been recognized if an expected return or expected yield were actually realized, and the estimates we use to calculate expected returns and expected yields could differ materially from actual results. Statements about expected returns and expected yields in this presentation are forward-looking statements. You should carefully read the cautionary statement above under the caption "Forward-looking Statements," which directly applies to our discussion of expected returns and expected yields.

PAST PERFORMANCE. Past performance is not a reliable indicator of future results and should not be relied upon for any reason.

## Second Quarter 2018

## Second Quarter 2018 Highlights

## Financial Results

$\$ 0.49$ dividend per share declared and paid ${ }^{1}$
\$19.36 GAAP book value per common share ${ }^{2}$

- $3.9 \%$ decrease, net of 2Q18 dividend


## $1.5 \%$ total quarterly loss on book value ${ }^{4}$

$\$ 0.50$ core earnings per share ${ }^{3}$

## Portfolio Update

4.7x leverage ratio for aggregate portfolio
0.94\% net interest spread for RMBS

## 7.5\% net CPR for full Conventional MSRs ${ }^{5}$

$11.5 \%$ net CPR for full Government MSRs ${ }^{5}$

## 7.7\% CPR for RMBS ${ }^{5}$

## 2Q 2018 Milestones

Acquired approximately $\$ 3.9$ billion in UPB of MSRs during the quarter
MSR portfolio of $\$ 19.1$ billion in UPB at June 30, 2018 ( $11 \%$ of assets and $39 \%$ of capital)
In June, issued ~3.1 million shares of Common Stock for net proceeds of approximately $\$ 53.8$ million before expenses

[^0]

## Aggregate Investment Portfolio Composition

Equity Investment Composition:
\$373,738

$\square$ Servicing Related Assets ${ }^{1} \quad$ RMBS ${ }^{2} \quad$ All Other ${ }^{3}$


## Aggregate Investment Portfolio Composition:

## $\$ 2,071,913^{4}$

## Servicing Related Assets represented approximately $39 \%$ of equity and $11 \%$ of assets at quarter end.

[^1]
## MSR Overview

## Commentary

Investments in MSRs totaled \$231.5 million, related to $\$ 19.1$ billion in UPB of underlying Fannie Mae, Freddie Mac and Ginnie Mae loans as of June 30, 2018

Acquired approximately $\$ 3.9$ billion in Fannie Mae/ Freddie Mac MSRs during 2Q18

MSR Characteristics

| Characteristics | FNMA | FHLMC | GNMA | Total |
| :--- | ---: | ---: | ---: | ---: |
| UPB (\$MM) | 9,773 | 5,605 | 3,727 | 19,105 |
| Avg UPB (\$'000) | 229,635 | 257,745 | 209,758 | 232,780 |
| WAC | 4.11 | 4.25 | 3.36 | 4.00 |
| Net Servicing Fee | 0.25 | 0.25 | 0.31 | 0.26 |
| WAM (Mths) | 317 | 336 | 327 | 324 |
| WALA (Mths) | 22 | 10 | 26 | 19 |
| Original FICO | 752 | 752 | 698 | 745 |
| Original LTV | 78.5 | 79.3 | 93.1 | 81.6 |
| ARM \% | $0.4 \%$ | $0.4 \%$ | $0.0 \%$ | $0.3 \%$ |
| 60+ DQ | $0.3 \%$ | $0.1 \%$ | $3.1 \%$ | $0.8 \%$ |

Historical Conventional Prepayment


Historical Government Prepayment


## Second Quarter 2018 RMBS Highlights

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| Current Portfolio Composition |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 30 Year Collateral: 73\% of Total RMBS Assets |  |  |  |  |  |  |
|  | FMV | \% | WAC | WALA | 1 Mo. CPR | LT CPR |
| 30 Year Flxed Collateral | \$1,357,549 | 102\% | 3.85 | 18 | 7.57 | 9.13 |
| TBA | $(\$ 20,816)$ | (2\%) | 3.86 | N/A | N/A | N/A |
| Total 30 year MBS Collateral | \$1,336,734 | 100\% | 3.85 | 18 | 7.57 | 9.13 |
| $\leq 20$ Year Collateral: $27 \%$ of Total RMBS Assets |  |  |  |  |  |  |
|  | FMV | \% | WAC | WALA | 1 Mo. CPR | LT CPR |
| 20 and 15 Year Fixed Collateral | \$399,659 | 80\% | 3.70 | 22 | 8.01 | 9.64 |
| Other | \$103,972 | 20\% | 5.87 | 23 | 0.42 | 3.52 |
| Total 15 and 20 Year MBS | \$503,631 | 100\% | 4.14 | 22 | 6.46 | 8.39 |

[^2] Source: CHMI management and The Yield Book Inc.

## RMBS Portfolio with Prepayment Protection




## Commentary

RMBS portfolio posted a weighted average three month CPR of 7.7\% for the three months ended June 30, 2018

- Six month weighted average CPR of 6.6\%
- RMBS portfolio continues to outperform FNMA aggregate speeds based on collateral composition

[^3]1. Geographic stories are single state pools such as NY or PR.
2. MHA pools consist of borrowers who have refinanced through the Home Affordable Refinance Program (HARP). Securities are collateralized by loans with greater than or equal to $80 \%$ loan to value (LTV). High LTV pools are predominately Making Homeownership Affordable (MHA) pools.
3. Source: eMBS Mortgage-Backed Securities OnLine.

## Aggregate Portfolio Rate Sensitivity Analysis

| Duration Gap Sensitivity on Current Portfolio |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | June 30, 2018 | - 25bps | + 25bps | +50 bps | +100 bps |
| Assets |  |  |  |  |  |
| RMBS Portfolio | 3.88 | 3.46 | 4.22 | 4.54 | 5.10 |
| Servicing Related Assets Portfolio | (1.93) | (2.55) | (1.44) | (1.07) | (0.60) |
| Total Assets | 1.95 | 0.92 | 2.78 | 3.47 | 4.50 |
| Liabilities, Swaps and Treasuries | (3.08) | (3.08) | (3.08) | (3.08) | (3.08) |
| Net Duration Gap (before Swaptions) | (1.14) | (2.17) | (0.31) | 0.39 | 1.42 |
| Swaptions | (0.39) | (0.22) | (0.53) | (0.60) | (0.64) |
| Net Duration Gap (including Swaptions) | (1.53) | (2.39) | (0.83) | (0.21) | 0.78 |
| Difference from Duration Gap as of June 30, 2018 |  | (0.86) | 0.70 | 1.32 | 2.31 |

Note: Liabilities, Swaps and Swaptions expressed as a percentage of total Assets. Totals may not sum due to rounding. Durations expressed in years.
The estimated duration gap sensitivity included in the table above is derived from models that are dependent on inputs and assumptions provided
The estimated duration gap sensitivity included in the table above is derived from models that are dependent on inputs and assumptions provided by third parties as well as by our investment team and, accordingly, actual results could differ materially from these estimates. Different models could generate materially different estimates using similar inputs and assumptions. Other market participants could make different assumptions with respect to these inputs. The sensitivity analysis assumes an instantaneous change in interest rates and, consequently, does not include the potential impact of ongoing portfolio rebalancing actions.

## Commentary

At June 30, 2018, the duration gap stood at - $\mathbf{- 1 . 5 3}$ years
Assuming an instantaneous shift of +100 basis points in interest rates, the duration gap would move from -1.53 years to 0.78 years

## MSR - Conventional Sensitivity


MSRs Conventional Sensitivity Analysis ${ }^{1}$


Note: Figures noted are rounded. As of June 30, 2018. Dollars in thousands. For additional information, see Cherry Hill Mortgage Investment Corporation Form 10-K, filed with the SEC.

1. Estimated changes in fair value represent management's assumptions based on a variety of factors. Actual changes in fair value may differ materially from what is shown.
2. June 30,2018 analysis assumes weighted avg. discount rate of $9.3 \%$; weighted avg. prepayment rate of $8.9 \%$; weighted avg. recapture rate of $0.0 \%$ for base case; and weighted avg. annual cost to service of $\$ 71$ per loan. 11
3. December 31, 2017 analysis assumes weighted avg. discount rate of $9.3 \%$; weighted avg. prepayment rate of $10.5 \%$; weighted avg. recapture rate of $0.0 \%$ for base case; and weighted avg. annual cost to service of $\$ 70$ per loan.

## MSR - Government Sensitivity

UNAUDITED Appendix
MSRs Government Sensitivity Analysis ${ }^{1}$

$\overline{\text { Note: Figures noted are rounded. As of June 30, 2018. Dollars in thousands. For additional information, see Cherry Hill Mortgage Investment }}$ Corporation Form 10-K, filed with the SEC.

1. Estimated changes in fair value represent management's assumptions based on a variety of factors. Actual changes in fair value may differ materially from what is shown.
2. June 30, 2018 analysis assumes weighted avg. discount rate of $12.0 \%$; weighted avg. prepayment rate of $9.0 \%$; weighted avg. recapture rate of $0.0 \%$ for base case; and weighted avg. annual cost to service of $\$ 105$ per loan. $\qquad$
3. December 31, 2017 analysis assumes weighted avg. discount rate of $12.0 \%$; weighted avg. prepayment rate of $8.1 \%$; weighted avg. recapture rate of $0.0 \%$ for base case; and weighted avg. annual cost to service of $\$ 96$ per loan.

CHMI
Cherry Hill Mortgage

## RMBS Portfolio Coupon Composition

Appendix


RMBS Fixed Rate Securities Summary (Excludes TBAs)

| WA Years to Maturity | Book Value | WAC | WA <br> Amortized Cost | WA <br> Fair <br> Value | Estimated <br> Fair <br> Value | \% of Total Estimated Fair Value |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\leq 15$ Years | \$58,575 | 3.23\% | \$104.10 | \$56,669 | \$100.68 | 3\% |
| 20 Years | \$351,410 | 3.76\% | \$104.49 | \$342,990 | \$101.97 | 18\% |
| $\geq 30$ Years | \$1,395,724 | 3.85\% | \$104.62 | \$1,357,548 | \$101.64 | 73\% |
| Other RMBS | \$96,739 | 5.86\% | \$100.05 | \$103,972 | \$107.69 | 6\% |
| Total / WA | \$1,902,448 | 3.93\% | \$104.32 | \$1,861,180 | \$102.01 | 100\% |

$\overline{\text { Note: Figures presented are rounded. As of June 30, 2018. Dollars in thousands, unless otherwise noted. }}$

## Financing Highlights

## Commentary

Average REPO cost was $2.12 \%$ with a weighted average days remaining to maturity of 57 days

31 REPO relationships established as of June 30, 2018

Borrowings with 20 financing counterparties
Weighted average "haircut" of 4.6\%

Repurchase Counterparties Utilized ${ }^{1}$


Cherry Hill Repurchase Agreement and Advance Summary

| Remaining Maturity | REPO \& Advances Outstanding | WA <br> Rate | Remaining Days <br> to Maturity | Original Days <br> to Maturity |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $x<1$ Month | $\$ 547,663$ | $32.3 \%$ | $2.04 \%$ | 16 | 90 |
| $1 \geq x<3$ Months | $\$ 734,276$ | $43.4 \%$ | $2.13 \%$ | 62 | 97 |
| $x \geq 3$ Months | $\$ 411,370$ | $24.3 \%$ | $2.19 \%$ | 102 | 117 |
| Total WA | $\$ 1,693,309$ | $\mathbf{1 0 0 . 0 \%}$ | $\mathbf{2 . 1 2 \%}$ | $\mathbf{5 7}$ | $\mathbf{9 9}$ |

[^4]
## Balance Sheet

| UNAUDITED |  | Consolidated Balance Sheets |
| :--- | :--- | :--- |
|  |  |  |

## Income Statement



## Comprehensive Income

Consolidated Statement of Comprehensive Income

| Net income (loss) | Three Months Ended June 30, |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | 2018 |  | 2017 |  |
|  | \$ | 13,845 | \$ | $(1,665)$ |
| Other comprehensive income (loss): |  |  |  |  |
| Net unrealized gain (loss) on RMBS |  | $(8,102)$ |  | 5,810 |
| Reclassification of net realized gain on RMBS included in earnings |  | 121 |  | 77 |
| Other comprehensive income (loss) |  | $(7,981)$ |  | 5,887 |
| Comprehensive income | \$ | 5,864 | \$ | 4,222 |
| Comprehensive income (loss) attributable to noncontrolling interests in Operating Partnership | \$ | 75 | \$ | (40) |
| Dividends on preferred stock |  | 1,317 |  | - |
| Comprehensive income attributable to common stockholders | \$ | 4,472 | \$ | 4,262 |

## Core Earnings

## Core Earnings

|  | Three Months Ended June 30, |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | 2018 |  | 2017 |  |
| Net Income (Loss) | \$ | 13,845 | \$ | $(1,665)$ |
| Other comprehensive income (loss): |  |  |  |  |
| + Realized loss on RMBS, net |  | 121 |  | 77 |
| + Realized loss on derivatives, net |  | 2,033 |  | 1,797 |
| + Unrealized gain (loss) on derivatives, net |  | $(6,009)$ |  | 4,633 |
| + Unrealized gain (loss) on investments in MSRs |  | 365 |  | 4,507 |
| + Tax (benefit) expense on unrealized (loss) gain on MSRs |  | 1,085 |  | $(1,491)$ |
| + Changes due to realization of expected cash flows |  | $(3,263)$ |  | $(1,803)$ |
| + Yield maintenance income |  | - |  | 750 |
| Total core earnings: | \$ | 8,177 | \$ | 6,805 |
| Core earnings attributable to noncontrolling interests in Operating Partnership |  | (104) |  | (75) |
| Dividends on preferred stock |  | 1,317 |  | - |
| Core Earnings Attributable to Common Stockholders | \$ | 6,756 | \$ | 6,730 |
| Core Earnings Attributable to Common Stockholders, per Share | \$ | 0.50 | \$ | 0.53 |
| GAAP Net Income (Loss) Per Share of Common Stock | \$ | 0.91 | \$ | (0.12) |

Note: Core earnings is a non-GAAP financial measure and is defined by the Company as GAAP net income (loss) applicable to common stockholders, excluding realized gain (loss) on RMBS, realized and unrealized (gain) loss on investments in Excess MSRs and MSRs, realized and unrealized gain (loss) on derivatives, realized (gain) loss on acquired assets, and changes in fair value of MSRs primarily due to realization of expected cash flows (runoff). Core earnings is adjusted to exclude outstanding LTIP-OP Units in our Operating Partnership and dividends paid on preferred stock. Additionally, core earnings excludes (i) any tax (benefit) expense on unrealized (gain) loss on MSRs and (ii) any estimated catch up premium amortization (benefit) cost due to the use of current rather than historical estimates of constant prepayment rates for amortization of Excess MSRs. Core earnings include yield maintenance payments received in connection with the sale of the Company's Excess MSRs. Core earnings are provided for purposes of comparability to other issuers that invest in residential mortgage-related assets. The Company believes providing investors with core earnings, in addition to related GAAP financial measures, gives investors greater transparency into the Company's ongoing operational performance. The concept of core earnings does have significant limitations, including the exclusion of realized and unrealized gains (losses), and may not be comparable to similarly-titled measures of other peers, which may use different calculations. As a result, core earnings should not be considered a substitute for the Company's GAAP net income (loss) or as a measure of the Company's liquidity. Investment Corporation

## Segment Results

|  | Results of Operations |  |  |
| :--- | ---: | ---: | ---: | ---: | ---: |

## RMBS Net Interest Spread

| RMBS Net Interest Spread |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- |
|  |  |  |  |

## Hedging Summary

| UNAUDITED |  |  |  |  | Appendi |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Interest Rate Swaps |  |  |  |  |  |
| Commentary | Characteristics |  |  |  |  |
| Approximately \$1.3 billion notional fixed pay swaps <br> 4.2 years weighted average duration | $\begin{array}{ll}\text { Years to Maturity } & \text { Notional } \\ \text { Amount }\end{array}$ |  | WA <br> Pay <br> Rate | WA <br> Receive <br> Rate | WA <br> Years to Maturity |
|  | $x \leq 3$ Years | \$352,300 | 1.67\% | 2.34\% | 1.4 |
|  | $3>x \leq 5$ Years | 332,900 | 2.04\% | 2.33\% | 4.1 |
| Covers 78\% of aggregate REPO | $5>x \leq 7$ Years | 393,300 | 2.18\% | 2.33\% | 6.0 |
| borrowings | $7>x \leq 10$ Years | 232,000 | 2.37\% | 2.34\% | 9.1 |
|  | $x>10$ Years | 14,000 | 2.64\% | 2.34\% | 11.1 |
|  | Total / WA: | \$1,324,500 | 2.05\% | 2.34\% | 4.9 |


| Interest Rate Swaptions |
| :--- | :--- |
| $\$ 195$ million notional |
| Options to enter into fixed pay swaps prior to June 2019 |
| 4.4 year weighted average duration |

## Abbreviations

Abbreviations: This presentation may include the below abbreviations, which have the following meanings:

- $\mathbf{3 0 +} \mathbf{D Q}$ - Percentage of loans that are delinquent by 30 days or more
- Age (mths) or Loan Age (mths) - Weighted average number of months loans are outstanding
- Carrying Value - represents Cost Basis plus adjustment for mark to market
- Cost Basis - Initial investment less return of capital received life to date
- CDR - Constant Default Rate
- CLTV - ratio of current loan balance to estimated current asset value.
- COUP - coupon or interest rate
- CPR - Constant Prepayment Rate, expressed as the sum of the CDR and CRR
- CRR - Constant Repayment Rate
- FHLMC - Freddie Mac / Federal Home Loan Mortgage Corporation
- FMV - Fair Mark Value
- FNMA - Fannie Mae / Federal National Mortgage Association
- FICO - A borrower's credit metric generated by the credit scoring model created by the Fair Isaac Corporation
- Flow Arrangements - contractual recurring agreements, often monthly or quarterly, to purchase servicing of newly originated or highly delinquent loans
- GNMA - Ginnie Mae / Government National Mortgage Association
- Gross CPR - Gross CPR is CPR prior to factoring in recapture
- Gross CRR - Gross CRR is CRR prior to factoring in recapture
- HPA - Home price appreciation
- LT - Long Term
- LTD Cash Flows - Actual life to date cash flow collected from the investment as of the end of the current month
- LTD - Life to Date
- Net CPR - CPR after taking into account recapture activity
- $\mathbf{O C l}$ - Other comprehensive income
- Projected Future Cash Flows - Future cash flow expected per the current market valuation
- Recapture Rate - Percentage of voluntarily prepaid loans that are refinanced by recapture partner
- Total Cash Flow - Sum of all LTD cash flows and all projected future cash flows
- Uncollected Payments - Percentage of loans that missed their most recent payment
- UPB - Unpaid Principal Balance
- Updated IRR - Internal rate of return calculated based on the cash flow received to date through the current month and the expected future cash flow based on our original underwriting assumptions.
- U/W LTD - Underwritten life-to-date
- WA/WAVG - Weighted Average
- WAL - Weighted Average Life to Maturity
- WALA - Weighted Average Loan Age
- WAC - Weighted Average Coupon


[^0]:    Note: Figures presented, except per share data, are rounded. As of June 30, 2018.

    1. Second Quarter $2018 \$ 0.49$ dividend was paid in cash on July 31, 2018 to stockholders of record on June 29, 2018.
    2. Based on 15,818,577 common shares outstanding at June 30, 2018.
    3. Based on $13,624,676$ fully diluted weighted average common shares outstanding at June 30, 2018.
    4. Total return on book value for the quarter ended June 30, 2018 is defined as the decrease in book value from March 31, 2018 to June 30 2018 of $\$ 0.79$, plus the dividend declared of $\$ 0.49$ per share, divided by June 30, 2018 book value of $\$ 19.36$ per share.
    5. Weighted average CPR for the three month period ended June 30, 2018.

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[^1]:    $\overline{\text { Note: All financial information As of June 30, 2018, unless otherwise noted. Figures in thousands, unless otherwise noted. }}$

    1. Comprised of MSRs and other related assets.
    2. Comprised of RMBS and other related assets and liabilities.
    3. Comprised of non-invested assets and liabilities.
    4. Excludes cash and other derivatives. Includes TBAs of approximately - $\$ 20.8$ million.
[^2]:    Note: Figures presented are rounded. As of June 30, 2018. Dollars in thousands, unless otherwise noted. CPR values presented are annualized.

[^3]:    Note: Figures noted are rounded. As of June 30, 2018. Dollars in thousands. CPR values presented are annualized.

[^4]:    Note: Figures presented are rounded. As of June 30, 2018. Dollars in thousands.

    1. Reflects the percentage of outstanding borrowings for our RMBS portfolio by counterparty.
