# Two Harbors Investment Corp. 

Webinar Series<br>September 2012

Part One:
Primer on Agency Prepayments

## Welcoming Remarks



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## Safe Harbor Statement

## Forward-Looking Statements

This presentation includes "forward-looking statements" within the meaning of the safe harbor provisions of the United States Private Securities Litigation Reform Act of 1995. Actual results may differ from expectations, estimates and projections and, consequently, readers should not rely on these forward-looking statements as predictions of future events. Words such as "expect," "target," "assume," "estimate," "project," "budget," "forecast," "anticipate," "intend," "plan," "may," "will," "could," "should," "believe," "predicts," "potential," "continue," and similar expressions are intended to identify such forward-looking statements. These forward-looking statements involve significant risks and uncertainties that could cause actual results to differ materially from expected results. Factors that could cause actual results to differ include, but are not limited to, higher than expected operating costs, changes in prepayment speeds of mortgages underlying our RMBS, the rates of default or decreased recovery on the mortgages underlying our non-Agency securities, failure to recover certain losses that are expected to be temporary, changes in interest rates or the availability of financing, the impact of new legislation or regulatory changes on our operations, the impact of any deficiencies in the servicing or foreclosure practices of third parties and related delays in the foreclosure process, the inability to acquire mortgage loans or securitize the mortgage loans we acquire, the inability to acquire residential real properties at attractive prices or lease such properties on a profitable basis, the impact of new or modified government mortgage refinance or principal reduction programs, and unanticipated changes in overall market and economic conditions.

Readers are cautioned not to place undue reliance upon any forward-looking statements, which speak only as of the date made. Two Harbors does not undertake or accept any obligation to release publicly any updates or revisions to any forward-looking statement to reflect any change in its expectations or any change in events, conditions or circumstances on which any such statement is based. Additional information concerning these and other risk factors is contained in Two Harbors' most recent filings with the Securities and Exchange Commission. All subsequent written and oral forward looking statements concerning Two Harbors or matters attributable to Two Harbors or any person acting on its behalf are expressly qualified in their entirety by the cautionary statements above.

## Two Harbors’ Company Overview

- Our mission is to be recognized as the industry-leading hybrid mortgage REIT. We'll accomplish this goal by achieving excellence in four areas:
- Superior portfolio construction and fluid capital allocation through rigorous security selection and credit analysis
- Unparalleled risk management with a strong focus on hedging and book value stability
- Targeted diversification of the business model
- Leading governance and disclosure practices
- We strive to deliver value to our stockholders:
— Delivered a total stockholder return of $78 \%{ }^{1}$ since commencing operations in late 2009
(1) Two Harbors' total stockholder return is calculated for the period October 29, 2009 through August 23, 2012. Total stockholder return is defined as capital gains on stock price including dividends. Source: Bloomberg Finance LP.


## Mortgage Amortization Example



Interest: \$3,968
Principal: \$1,761

## Prepayment Example

Fannie Mae $\$ 100$ Million Pool with 4\% Coupon
(\$ Million)
Year One

| Beginning Outstanding Principal Balance | $\$$ |
| :--- | :---: |
| Scheduled Interest Payments | $\$$ |
| Scheduled Principal Payments | $\$$ |
| Total Scheduled Principal and Interest Payments | $\$$ |
| Outstanding Principal Balance After Scheduled Payments | $\$ .0$ |
| Additional Principal Payments @ 15\% CPR | $\$$ |
| Ending Outstanding Principal Balance | $\$$ |

## Impact of Prepayments on Cash Flows

Fannie Mae \$100 Million Pool with 4\% Coupon

| (\$ Million) | 6\% CPR |  | 15\% CPR |  | 30\% CPR |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Total Interest Payments Over the Life of the Bond | \$ | 40.2 | \$ | 21.4 | \$ | 10.8 |
| Total Principal Payments Over the Life of the Bond | \$ | 100.0 | \$ | 100.0 | \$ | 100.0 |
| Total Principal and Interest Payments Over the Life of the Bond | \$ | 140.2 | \$ | 121.4 | \$ | 110.8 |
| Weighted Average Life |  | years |  | 5.3 years |  | 2.7 years |

## Primary Sources of Prepayments

- Curtailments
- Delinquencies and defaults
- Housing turnover
- Refinancing


## Curtailments

- Payment made by the borrower in an amount that is greater than the scheduled payment and less than the outstanding principal balance
- Incremental amount over the scheduled payment reduces the outstanding balance and subsequently shortens the life of the loan

Example: $\$ 100,000,30$-year, $4.0 \%$ Fixed-rate Mortgage Loan

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Scenario One:
    -Additional lump sum payment of $10,000 in addition to 60 th mortgage payment of $477
Result:
    -Mortgage balance fully paid after approximately 26 years
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## Scenario Two:

-Monthly payments of $\$ 500$ in place of the scheduled monthly payment of $\$ 477$

## Result:

-Mortgage balance fully paid after approximately 28 years

## Delinquencies and Defaults

Freddie Mac Serious Delinquencies ${ }^{1}$


## Determinants of Housing Turnover

- Life events
- Marriage, children, divorce, retirement and death
- Homeowner's general desire to upgrade to a better home
- Economic conditions
- Labor market, home price appreciation and housing inventory
- Seasonality
- Peaks in months between May through August
- Lowest instances in December, January and February


## Refinancing Overview

- Securing a lower mortgage rate
- Changing the terms of the mortgage
- Cashing out to access the equity in a home
- Credit curing


## Relationship Between Mortgage Rates and CPR



## Impact of Rate Movements on Agency Securities

Fannie Mae $\$ 100$ Million Pool with 4\% Coupon

| Interest Rate | Borrower <br> Response | Impact to <br> CPR | CPR <br> Assumption | Weighted <br> Average Life | Impact to <br> Weighted <br> Average Life | Risk to <br> RMBS Investor | Impact to Bond Price on a <br> Relative Basis |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| Unchanged | No Action | Unchanged | $15 \%$ | 5.3 years | No change | - | Unchanged |
| Decreases | Refinance | Increases | $30 \%$ | 2.7 years | Decreases | Reinvestment Risk | Increases by a small amount |
| Increases | No Action | Decreases | $6 \%$ | 10.1 years | Increases | Extension Risk | Decreases by a large amount |

## Refinancing Incentive and Pool Seasoning



Source: This example represent the views of Two Harbors and its external manager, PRCM Advisers LLC, and are provided for illustration purposes only and may not represent all (1) Estimated origination and title costs. Source: Bankrate.com.
(2) Source: eMBS.

## Role of Loan Balances



Source: This example represent the views of Two Harbors and its external manager, PRCM Advisers LLC, and are provided for illustration purposes only and may not represent all
(1) Estimated origination and title costs. Source: Bankrate.com

## Agency Seasoned Bond Example

## Agency Seasoned Bond Example - FN254449

The weighted average life analysis presented below represents the views of Two Harbors and its external manager, PRCM Advisers LLC, and are provided for illustration purposes only and may not represent all assumptions used.

## Security and Collateral Summary ${ }^{1}$

- Fannie Mae 7.0\% coupon
- Gross Weighted Average Borrower Coupon: 7.5\%
- Vintages: 2002-99\%; 2001-1\%
- Original Mortgage Balance: $\$ 236$ million
- Pool Factor: 0.044
- Weighted Average Maturity (WAM): 229 months


Weighted Average Life

|  | $\mathbf{8 \%} \mathbf{C P R}$ | $\mathbf{1 1 \%} \mathbf{C P R}$ | $\mathbf{1 4 \%} \mathbf{C P R}$ |  | $\mathbf{6 \%} \mathbf{C P R}$ | $\mathbf{1 5 \%} \mathbf{C P R}$ | $\mathbf{3 0 \%} \mathbf{C P R}$ |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| Fannie Mae Seasoned 7\% Pool | 7.1 yrs | 6.0 yrs | 5.1 yrs | Fannie Generic $4 \%$ Pool | 10.1 yrs | 5.3 yrs | 2.7 yrs |

(1) Source: Bloomberg Finance LP.
(2) Source: eMBS.

## Loan Origination Characteristics

## Characteristics

- Product type
- Origination year and month
- Credit quality
- Mortgage servicer
- Geography


## Mortgage Prepayment Ratio by State

Mortgage Prepayments by State ${ }^{1}$
Fannie Mae 30-Year 4\% 1-month State to Cohort Ratio

|  | 2011 | 2010 | 2009 | 3-year <br> Average |
| :--- | :---: | :---: | :---: | ---: |
| California | 1.69 | 1.44 | 1.30 | 1.48 |
| Illinois | 1.05 | 1.02 | 1.23 | 1.10 |
| Puerto Rico | 0.17 | 0.42 | 0.12 | 0.24 |

## Two Harbors' Agency Strategy and Portfolio


(1) Securities collateralized by loans of less than or equal to $\$ 85 \mathrm{~K}$.

Securities collateralized by loans of less than or equal to $\$ 175 \mathrm{~K}$, but more than $\$ 85 \mathrm{~K}$.
(3) Securities collateralized by loans with greater than or equal to $80 \%$ loan-to-value ratio.
(4) Securities collateralized by loans held by lower credit borrowers as defined by Fair Isa
(5) Home Equity Conversion Mortgage loans (or "HECM") are loans that allow th sac Corporation's, or FICO, scoring model.

Securities collateralized by loans reflecting less prepayment risk due to previously excowner to convert home equity into cash collateralized by the value of their home Prepayms colteralized by loans reflecting less prepayment isk due to previously experienced high levels of refinancing.
(8) Source: eMBS.

## Summary

## Managing prepayment risk is essential to the Agency RMBS investor

- Prepayments impact the cash flows and the expected average life of our investments
- The RMBS investor is exposed to extension risk in a rising rate environment and reinvestment risk in a declining interest rate environment
- Borrowers' refinancing incentives and certain loan characteristics such as seasoning, loan balance and geography, are a few factors we analyze in selecting Agency securities
- Prepayment protected securities have enabled Two Harbors' Agency RMBS portfolio to historically experience low and stable prepayment speeds


## Contact Information

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