REVERSE MORTGAGE HMBS INTRO

Aug 2015

MSCI Securitized Products Team

PRESENTATION OVERVIEW

- Home Equity Conversion Mortgage (HECM)
- Home Equity Conversion Mortgage Backed Security (HMBS)
- HECM Real Estate Mortgage Investment Conduit (HREMIC)

Note: Data and Material source –Intex, Ginnie Mae, FHA, and HUD

HECM BASIC

- FHA Insured. Started in 1987. Ginnie Mae started HECM securitization in 2007. Guarantor of securities.
- Allows elderly (62 and older) homeowners to convert equity in their homes into cash.
- No monthly, scheduled payments. Payments are made after a termination event occurs.
  – Sale of the property, moving out
  – Prepayment
  – Failure to occupy the property for 12 consecutive months
  – Failed repair
  – Death of borrower
  – Defaults (Tax, Insurance, Repair, etc..)
  – 98% buyout, etc…

HECM ELIGIBILITY

BORROWER REQUIREMENTS

- 62 years of age or older
- Own the property outright or paid-down a considerable amount
- Occupy the property as your principal residence
- No delinquencies on any federal debt, suspensions, debarments, or excluded participation from FHA programs
- Completion of HECM counseling

PROPERTY REQUIREMENTS

- Single family home or 2-4 unit home with one unit occupied by the borrower
- HUD-approved condominium project
- Manufactured home that meets FHA requirements

FINANCIAL REQUIREMENTS

- Income, assets, monthly living expenses, and credit history will be verified.
- Timely payment of real estate taxes, hazard and flood insurance premiums will be verified

HECM COUNSELING

- Financial implications, Alternatives
- Borrower obligations , Costs of obtaining the loan, Repayment conditions

HECM COST AND FEE

COST/FEE

- Loan Origination Fee. The fee usually around
  - $2,500 ~$6,000. Capped at $6,000
- Third party fees (i.e., appraisal, inspection, lender title policy, etc.)
- FHA Mortgage Insurance Premiums – Initial 2.5% (>60% PL), 0.5% (<=60% PL) on Maximum Claim Amount, then 1.25% annually on UPB
- Servicing Fee – Before Flat $30 or 6~75 bps; Flexible - Basis point 25~75 bps. Now 36~150 bps

KEY HECM TERMS

TERM	DEFINITION	IMPORTANCE
Principal Limit Factor (PLF)	Percent of maximum claim amount allowable in cash draws (LTV), given the age of the borrower(s) and "expected" interest rate for the loan.	The factor determining how much money is available to the borrower(s)
Principal Limit	The maximum amount that a mortgagor can borrow. Generally the older that you are and the lower the interest rate, the more you can borrow.	Once a borrower reaches the Principal Limit, the loan continues to accrue interest, servicing fees and the Mortgage Insurance Premium (MIP), but the borrower can make no further principal draws.
Maximum Claim Amount (MCA)	The amount that FHA will insure for any HECM loan. This is the minimum of the appraisaled home value and the HECM upper limit $625,500	FHA allows Issuers to assign a HECM loan that accrues to 98% of the MCA. Ginnie Mae requires any loan that has accrued to 98% of MCA to be purchased out of an HMBS pool whether or not an Issuer assigns the loan to FHA.
Participation	The funded portion of a HECM loan that has been securitized. Additional and subsequent balances can be securitized in subsequent HMBS.	There may be many participations in one HECM loan, but each participation corresponds to only one HMBS.

MSCI

KEY DEFINITIONS FOR HECM LOANS

MATURITY EVENT

- A reverse mortgage becomes **due and payable** when one of the following occurs:
  - A borrower dies and the property is not the principal residence of at least one surviving borrower
  - All of a borrower's title in the property is sold and no other borrower retains title to the property
  - The property ceases to be the principal residence of the borrower for reasons other than the death of the borrower and the property is not the principal residence of at least one surviving borrower
  - A borrower fails to physically occupy the property for a period longer than 12 consecutive months
  - An obligation of the borrower under the security instrument is not performed such as:
    - The borrower fails to pay taxes and insurance
    - The borrower fails to maintain the property up to a minimum maintenance level

HUD ASSIGNMENT OPTION

- When the outstanding amount of a HECM equals 98% of the Maximum Claim Amount, or if a draw on a line of credit on a HECM loan will equal or exceed 98%, assuming the loan is **not due and payable,** then the loan can be assigned to HUD in return for a payment **not greater than the maximum claim amount**

HECM LOAN DESCRIPTION

- The borrower typically receives a lump sum payment or a series of payments from the lender in an amount determined by MCA and PLF (Principal limit factor) ratio derived from the following factors:
  - The age of the youngest borrower
  - The current interest rate
- Average draw % at origination is 60% of MCA
- The lender's loan decision is based mainly on the borrower's equity in the home
- Reverse mortgage loans are non-recourse loans with borrowers being able to retain title and ownership of the home
- The loans become **due and payable** when a **maturity event** occurs
- Majority of HECM loans terminate or are assigned to HUD within 7 years

REVERSE MORTGAGE VS. FORWARD MORTGAGE

	REVERSE MORTGAGE	FORWARD MORTGAGE
PAYMENT MECHANICS	LENDER ↓ BORROWER	LENDER ↑ BORROWER
BORROWER DEBT	INCREASES AS LOAN NEGATIVELY AMORTIZES +	DECREASES AS BORROWER MAKES P&I PAYMENTS -
BORROWER EQUITY	DECREASES AS LOAN NEGATIVELY AMORTIZES -	INCREASES AS BORROWER MAKES P&I PAYMENTS +

HECM PAYMENT TYPES

PAYMENT PLAN	STRUCTURE
Line of Credit (LOC)	Unscheduled payments or in instalments, at times and in an amount of the borrower's choosing until the line of credit is exhausted. Majority of HECMs is this type of payment, and majority of fixed HECMs draw 100% of LOC at origination
Term	Equal monthly payments for a fixed period of months
Tenure	Equal monthly payments as long as at least one borrower lives and continues to occupy the property as a principal residence
Modified Tenure	Combination of line of credit plus scheduled monthly payments for as long as the borrower remains in the residence
Modified Term	Combination of line of credit plus monthly payments for a fixed period of months selected by the borrower.
Lump Sum	Single disbursement lump sum for fixed rate or ARMs at closing. Cannot exceed the initial disbursement limit

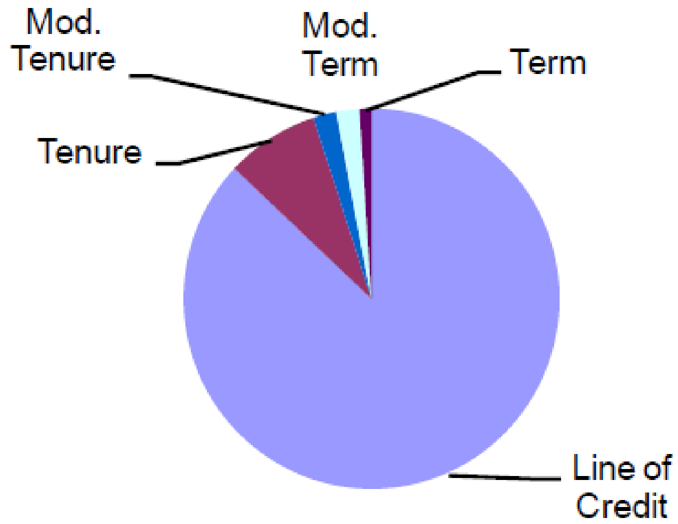
Source: HUD.

MSCI

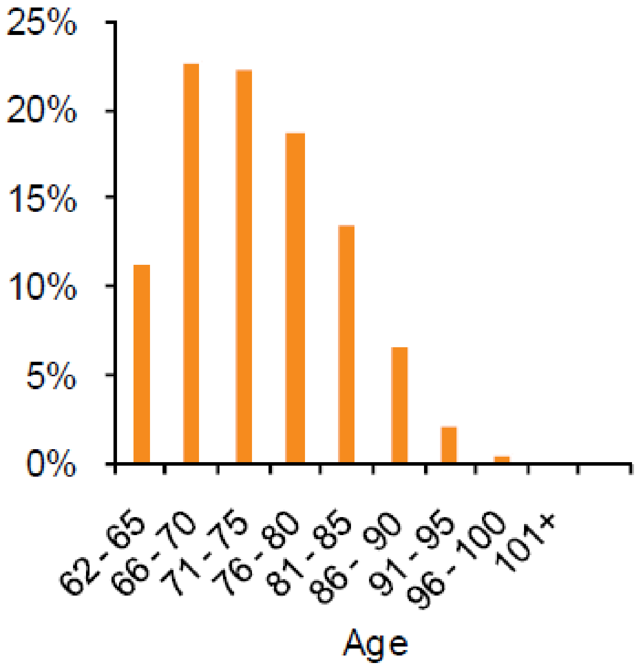
PAYMENT OPTION/AGE AT ORIGINATION

MAJORITY HECMS IS LOC; AVERAGE AGE AT ORIGINATION IS ABOUT 72

HECM Loans by Payment Option, as of May 2010



Pct. of HECM Loans by Age at Origination, as of May 2010



HECM LOAN TYPES

- Most HECM loans fall into three types of interest rate forms: Fixed-rate, CMT or Libor-Indexed (1 month or 12-month).
- Prior to 2007, the market was dominated by CMT-indexed rates - like CMT100. Following the HERA authorization in 2008, LIBOR and fixed-rate options were added. Since than the bulk of issuance has been fixed-rate product but monthly LIBOR adjustable-rate has also grown in popularity. Monthly-adjusted CMT floating-rate mortgage pool issuance has become sporadic.
- The HECM Saver was announced on September 21, 2010, incorporating extremely low initial insurance premiums (0.01%) as an encouragement to borrowers who were looking for a scaled back version of the standard HECM
- In exchange for lower initial premiums, these mortgages carry lower principal limit factors ("PLFs") than the Standard product. The lower risk resulting from lower PLFs allowed for lower insurance premiums, especially initially
- The HECM Saver will likely be targeted towards borrowers with little or no mortgage debt and smaller financing requirements
- The HECM Saver was designed as a low cost alternative to a home equity line of credit (HELOC)

COMPARISON OF THE STANDARD AND SAVER HECM

	STANDARD		
MORTGAGE INSURANCE PREMIUM	**2010**	**2011**	SAVER
Origination (Based on MCA)	2.0%	2.0%	0.01%
On-going (Annualized – Based on UPB)	0.5%	1.25%	1.25%
Principal Limit Factors (by interest rate, age)			
5.0%			
62	56.20%	61.90%	52.30%
73	64.30%	68.10%	55.70%
85	73.70%	74.70%	59.40%
5.5%			
62	56.20%	54.80%	45.60%
73	64.30%	62.20%	50.10%
85	73.70%	70.30%	55.40%
6%			
62	50.70%	49.40%	39.90%
73	60.20%	57.60%	45.30%
85	71.20%	66.70%	51.50%

Source: HUD.

MSCI

HECM PAYOFF MECHANICS

HUD 98% PUT ASSIGNMENT

Servicer will assign the mortgage to HUD if the current balance, including all payments made to or on behalf of the borrower, MIP and accrued interest, is equal to or greater than 98% of the maximum claim amount.

Conditions:

- Servicer is current in payments to borrowers
- Servicer is current in insurance payments to the HUD
- Mortgage is not **due and payable** as a result of either the death of the borrower or the sale of the property by the borrower
- Servicer has not notified the HUD that the mortgage is **due and payable**
- Mortgage is a first lien and title to the property securing the mortgage is good and marketable

MATURITY EVENT

AUTOMATIC

- Borrower dies
- Borrower sells the property

HUD APPROVAL REQUIRED

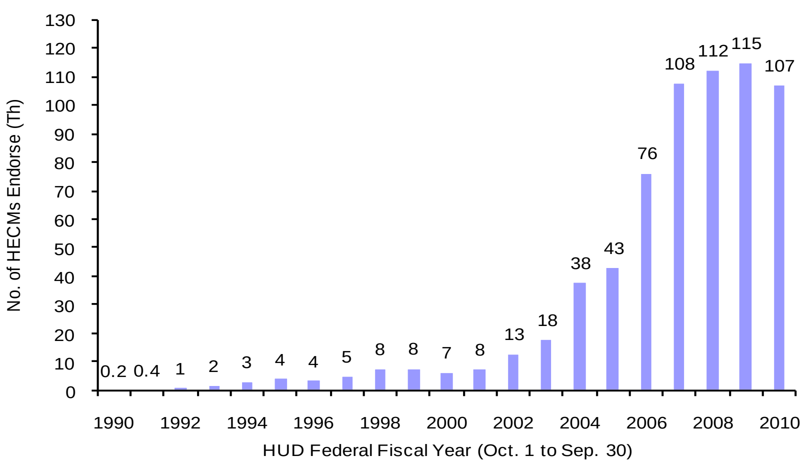
- Borrower fails to occupy the property for 12 consecutive months
- Borrower violates any mortgage covenant
- The property ceases to be the principal residence of the borrower

- Servicer notifies HUD and the borrower that the mortgage is due and payable and the borrower must:
  - Payoff the mortgage
  - Sell the property for at least 95% of the appraised value
  - Provide the servicer with a deed in lieu of foreclosure
- The property will normally be sold by the borrower, the borrower's estate to payoff the outstanding balance on the mortgage, or by servicer. If UPB reaches 98% and loan in default, servicer buys out and services the loan to termination at which point they will be able to submit a claim to FHA for any shortfall that occurs.

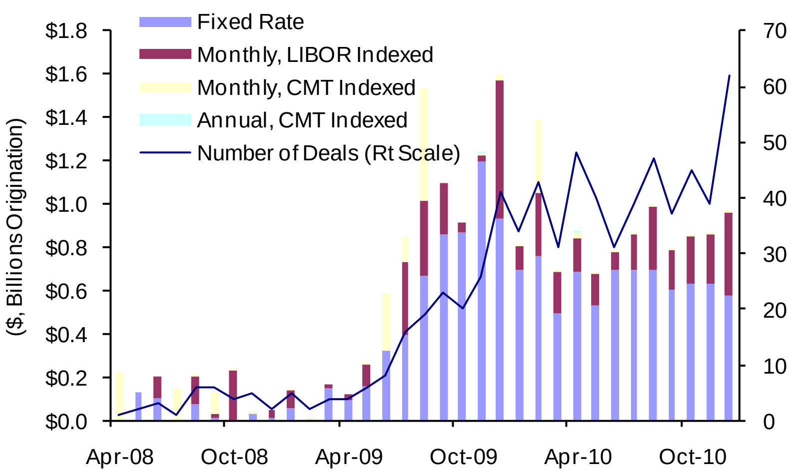
REVERSE MORTGAGE PRODUCTION

- Reverse mortgage production has grown significantly since inception
- Ginnie Mae wraps of the product has increased since the program started in 2007 and the first pool produced in 2008
- Beyond the HECM product, only a small amount of uninsured reverse mortgages have been sold in pools

REVERSE MORTGAGE ENDORSEMENTS BY HUD



GNMA PRODUCTION BY UNDERLYING PRODUCT



HMBS

SERVES AS AN ATTRACTIVE STANDALONE INVESTMENT:

- Contrast to regular MBS' big negative convexity caused by prepayment, the HMBS bonds have a small **positive convexity** in general
- Superior yields comparing with treasury and swap
- Straightforward structure
- Relatively stable average life: 98% assignment and buyout
- Full faith and credit of the United States Government

KEY HMBS FEATURES INCLUDE:

- Collateralized by HECM loans
- Weighted Average Coupon (WAC) accrual pass-through bond
- Allows ultimate flexibility in underlying interest rates
- Securitization of funded balances. An individual HECM loan can be securitized in multiple HMBS as they are funded over time
- Underlying collateral must have the same index and reset dates

HOME EQUITY CONVERSION MORTGAGE BACKED SECURITY HMBS

- The Ginnie Mae HMBS program was first launched in November 2007
- Since inception, there have been at least 976 transactions totaling $26.6 billion (as of July 2011)
  - Number of transactions by year: 30 in 2008, 174 in 2009, 499 in 2010, and 273 (as of July 2011)
- HMBS is a pass-through securities product under the Ginnie Mae II umbrella
- Ginnie Mae has also developed an H-REMIC capability which would allow firms to structure HMBS with forward Ginnie Mae pass-throughs

GINNIE MAE HMBS ISSUANCE BY PRODUCT TYPE AND ISSUANCE YEAR

PRODUCT TYPE:	2008	2009	2010	TOTAL	PERCENT
Fixed-Rate	370,152,280	5,713,028,485	7,771,593,020	13,854,773,785	67.34%
1-Month LIBOR	518,157,472	1,872,902,484	2,468,107,212	4,859,167,168	23.62%
1-Month CMT	468,939,694	944,732,551	443,675,353	1,857,347,598	9.03%
1-Year CMT	0	1,739,574	1,063,653	2,803,227	0.01%
	1,357,249,446	**8,532,403,094**	**10,684,439,238**	**20,574,091,778**	**100.00%**

HMBS POOLING

MINIMUM POOL SIZE

- $1,000,000.
- At least 3 HECM participations related to three distinct HECM loans.

POOLING PARAMETERS

- Fixed rate HECM loans cannot be pooled with adjustable rate loans.
- Adjustable rate HECM loans
  - Same reset date.
  - Same frequency.
- HECM Participations must have a spread of between 36 and 150 bps below the HECM note rate.

MULTIPLE ISSUER POOLS WILL NOT BE ALLOWED

HMBS SERVICING

- The issuers may develop their own systems, and service the loans by themselves
- May contract to sub-servicers
- Issuers are required to monitor a borrower’s compliance
  - Maturity event
  - Borrower default
- Loan substitutions will not be allowed
- **Issuers are responsible for funding any payments due in a timely fashion**
- Payments will be disbursed to issuers in the month following receipt of: Partial prepayments, Full payoffs, Issuer repurchases, FHA claims paid
- When a HECM loan is terminated, payments will be distributed pari passu

ISSUER RESPONSIBILITIES

MANDATORY REPURCHASE EVENT

Issuers must repurchase participations related to HECM loans that have reached 98% of their MCA

- For HECM loans that have not become due and payable, FHA will accept an assignment claim
- For HECM loans that have become due and payable, Issuers will service the loan to termination at which point they will be able to submit a claim to FHA for any shortfall that occurs
- For non-assignable loans servicers may experience loss under claim based termination due to depressed real estate market, un-reimbursable fees and advances

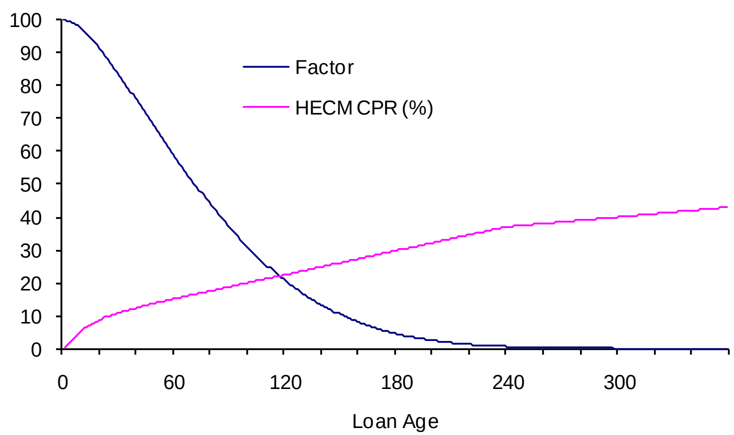
HMBS PREPAYMENT

PREPAYMENT CAN OCCUR IN HECMS FOUND IN GINNIE MAE HMBS FOR ESSENTIALLY FOUR REASONS:

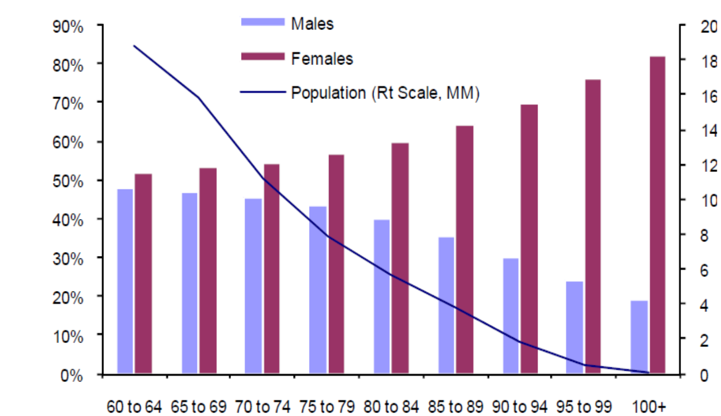
- Mortality – Majority cause
- Mobility, defined as a borrower's long-term exit from the home
- Refinance
- HUD assignment, defined as when the negatively amortized loan balance reaches 98% of maximum claim value of the loan

This standard prepayment curve is generally used for fixed-rate pools, where loans are generally lump-sum distributions at the origination.

HECM CPR ASSUMPTIONS BY LOAN AGE
AND IMPLIED FIXED RATE POOL FACTOR



2010 Projection of Population by Age and Sex, by Age 60+ Years Cohorts, as of 2008



ISSUER RESPONSIBILITIES

PAYMENT OF INTEREST SHORTFALLS

- Issuers are required to remit interest accrued through the first of the month on all full and partial payments.
- HECM borrowers are allowed to make full and partial prepayments at any time, on any day of the month.
  - Payments made on the first of the month will be remitted to Investors on the distribution date according to Ginnie II guidelines.
  - Any payment made to Issuers after the first of the month will be remitted to Investors on the distribution date of the following month, and **Issuers will make up any shortfall in interest.**

GINNIE MAE HMBS ISSUERS

- Since inception, Bank America has led Ginnie Mae HMBS issuance each year. Both BoA and WFC dropped out the HECM market in 2011.
- In 2010, issuance was distributed more evenly with five issuers that had 10% or greater market share

GINNIE MAE ISSUERS BY MARKET SHARE (%)

	2008		
Originator/Issuer	**Number of Deals**	**Original UPB ($)**	**Percent of Market**
Bank of America	8	514,005,443	37.87%
Financial Freedom	16	469,312,688	34.58%
Lehman Brothers	2	252,573,464	18.61%
Sun West Mortgage	4	121,357,851	8.94%
	30	**1,357,249,446**	**100.00%**
	2009		
Originator/Issuer	**Number of Deals**	**Original UPB ($)**	**Percent of Market**
Bank of America	67	4,249,120,257	49.80%
MetLife	34	2,096,553,382	24.57%
Wells Fargo Bank	20	939,366,823	11.01%
Generation Mortgage	17	604,845,312	7.09%
Reverse Mortgage Solutions	8	370,025,400	4.34%
Sun West Mortgage	21	236,339,325	2.77%
Financial Freedom	7	36,152,595	0.42%
	174	**8,532,403,094**	**100.00%**
	2010		
Originator/Issuer	**Number of Deals**	**Original UPB ($)**	**Percent of Market**
Bank of America	196	3,633,710,834	34.01%
Wells Fargo Bank	48	2,042,016,742	19.11%
MetLife	73	2,021,647,086	18.92%
Reverse Mortgage Solutions	54	1,230,487,411	11.52%
Generation Mortgage	60	1,120,284,786	10.49%
Sun West Mortgage	30	324,465,782	3.04%
Financial Freedom	37	311,826,597	2.92%
	498	**10,684,439,238**	**100.00%**

FIXED-RATE GINNIE MAE HMBS

- Fixed-rate HMBS have achieved the best level of liquidity with approximately $7.8 billion trading in 2010 compared to $5.7 billion 2009 and $370 million in 2008
- Due to the low interest environment, pricing remains strong with current issuance trading in the $104 to $110 dollar price. HMBS bonds are traded based on the spread over 5-years swap rate, the range is 80~160bps. The price and spread ranges depending on net bond coupon and market conditions. The fixed has typical average life around 5 years.
- In 2010, 48% of the fixed-rate HMBS volume was issued by Bank of America and MetLife
  - The dominant HMBS fixed-rate issuer is Bank of America with $2.1 billion or a 27.1% market share since inception followed by MetLife with $1.6 billion (20.5% market share)
  - Additionally, Reverse Mortgage Solutions (“RMS”) issued $1.2 billion (15.8% market share) and Wells Fargo originated $1.2 billion (15.0% market share) of fixed-rate HMBS
- Other HMBS Issuers include Wells Fargo, Bank of America (Broker/Dealer division), Sun West Mortgage Company, Inc. (“Sun West”), Financial Freedom, Generation Mortgage, and Reverse Mortgage Solutions (“RMS”)

FIXED-RATE GINNIE MAE HMBS MECHANICS

- Unlike HECM floating rate products (i.e. CMT and LIBOR-based), Fixed-Rate HECMs are fully drawn at origination (with the exception of set asides for servicing and repairs)
  - Under the Ginnie Mae HMBS program, the initial drawn balance contributed to a pool represents a substantial portion of the entire UPB of the loan
  - Moreover, the only future draws contributed to subsequent pools should be for servicing fees, mortgage insurance fees and any repair set asides
- Therefore, an investor in an HMBS collateralized by Fixed-Rate HECMs will see the principal balance of the securities grow by a fixed-interest rate per annum (on an accrual basis, 30/360) less (i) any prepayments resulting from refinances, (ii) repayments from maturity events (i.e. mobility and mortality) and (iii) mandatory repurchases required by Ginnie Mae for loans reaching 98% of their maximum claim amount
- Given that Ginnie Mae requires the Issuer to repurchase each loan from an HMBS once such loan reaches 98% of its maximum claim amount, an "effective maximum" maturity date for each fixed-rate loan in an HMBS can be determined

FLOATING RATE GINNIE MAE HMBS

- Liquidity for floating rate HMBS has been improving steadily as the Ginnie Mae HMBS program has been the dominant outlet for production
- Combine with high margin and the low interest environment, pricing remains strong with current issuance trading in the $102 to $107 dollar price. HMBS floating bonds are traded of Discount Margin (DM) over Libor in the range of 50~100bps. The price and spread ranges depending on net bond coupon and market conditions. The fixed has typical average life around 6 years. Due to uncertainty to the additional draws, draw times and yield curve fluctuations, the floating bonds may have a bigger duration comparing with the fixed HMBS bonds.
- Pricing has improved on floating rate HMBS due to H-REMIC demand
    - Investors have gained interest in LIBOR HMBS bonds that are stripped-down to create a par bond and an interest-only (IO) bond
- Floating rate HMBS have traded well in the context of a potentially higher interest rate environment

FLOATING RATE GINNIE MAE HMBS

- The coupon for Ginnie Mae Floating Rate HMBS is determined using 1-month LIBOR plus a margin (range of 150~250 bps)
- Floating Rate HMBS adjust on a monthly basis and have a lifetime rate cap equal to the initial expected rate on the loan plus 10%. Thus, for most loans originated so far, the lifetime rate cap is in the low to mid teens
- Floating Rate HMBS are accrual securities. Excluding prepayments, HMBS will increase in balance at the monthly note rate on each underlying loan
- Ginnie Mae requires the Issuer to **repurchase** each loan from an HMBS once such loan reaches 98% of its maximum claim amount
- This 98% put combined with the accrual nature of floating rate securities results in an attractive convexity profile for investors
    - As interest rates increase, the life of the HMBS bond will shorten due to faster interest accretion enabling the investor to reinvest funds at higher market rates
    - As interest rates decrease, the life of the HMBS bond likely will extend allowing the investor to earn an higher return relative to reinvestment rates in the market

MSCI

GINNIE MAE HECM REMIC - HREMIC

- Allows for inclusion of HMBS and forward Ginnie Mae MBS collateral within the same REMIC structure.
- The Ginnie Mae H-REMIC was developed to allow investors to access HMBS bonds with significantly lower premiums
  - Ginnie Mae H-REMIC structure creates a lower coupon principal and interest HMBS bond and an interest-only (IO) HMBS bond
  - Cash flows within the H-REMIC are paid out on a pro-rata basis
  - HEMIC-IO is traded in term of coupon multiples. Typical multiple is in the range of 2~5 times
- The development of the H-REMIC market in HMBS should create appetite for smaller deals to be packaged up into larger, more diverse pools
- H-REMIC issuers include: Morgan Stanley, Barclay’s, Cantor Fitzgerald, Bank of America, Jefferies, Wells Fargo, and Mizuho. In Nov 2009, BOA issued the first Ginnie Mae H-REMIC

TRADING TERMINOLOGY & RISK MEASUREMENT

TRADING TERMINOLOGY

- HECM fixed bond market is quoted/traded by nominal spread over swap curve. 65/N means the nominal yield is 65 bps over WAL equivalent swap curve
- HECM ARM bond market is quoted/traded by Discount Margin (DM). 50 DM means there is 50 bps additional yield over 1-month Libor

RISK MEASUREMENT

- HECM bonds do not expose to prepayment risk. Prepayment comes mostly from termination events instead of refi or payoff
- HECM bonds have little or none convexity risk
- Typical newly created fixed HMBS bonds have effective duration around 4.8, ARM bonds have effective duration around 0.5
- HMBS bonds are fully exposed to interest rate risk; portfolio managers often hedge the duration using Treasury or Swap
- HMBS bonds are exposed to spread risk also. Spread has been narrowed a lots in the past few year from 90+bps to 60+ bps now

HMBS OPPORTUNITIES AND CHALLENGES

OPPORTUNITIES

- Reverse mortgage origination volume is expected to increase as a result of the significant proportion of “baby-boomers” nearing retirement
- Introduction of the HECM Saver as a low-cost alternative to the HECM Standard
- The addition of the HECM for Home Purchase Program
- Department of Housing and Urban Development’s extension of the Federal Housing Administration’s maximum loan limit of $625,500 to the end of 2012.

CHALLENGES

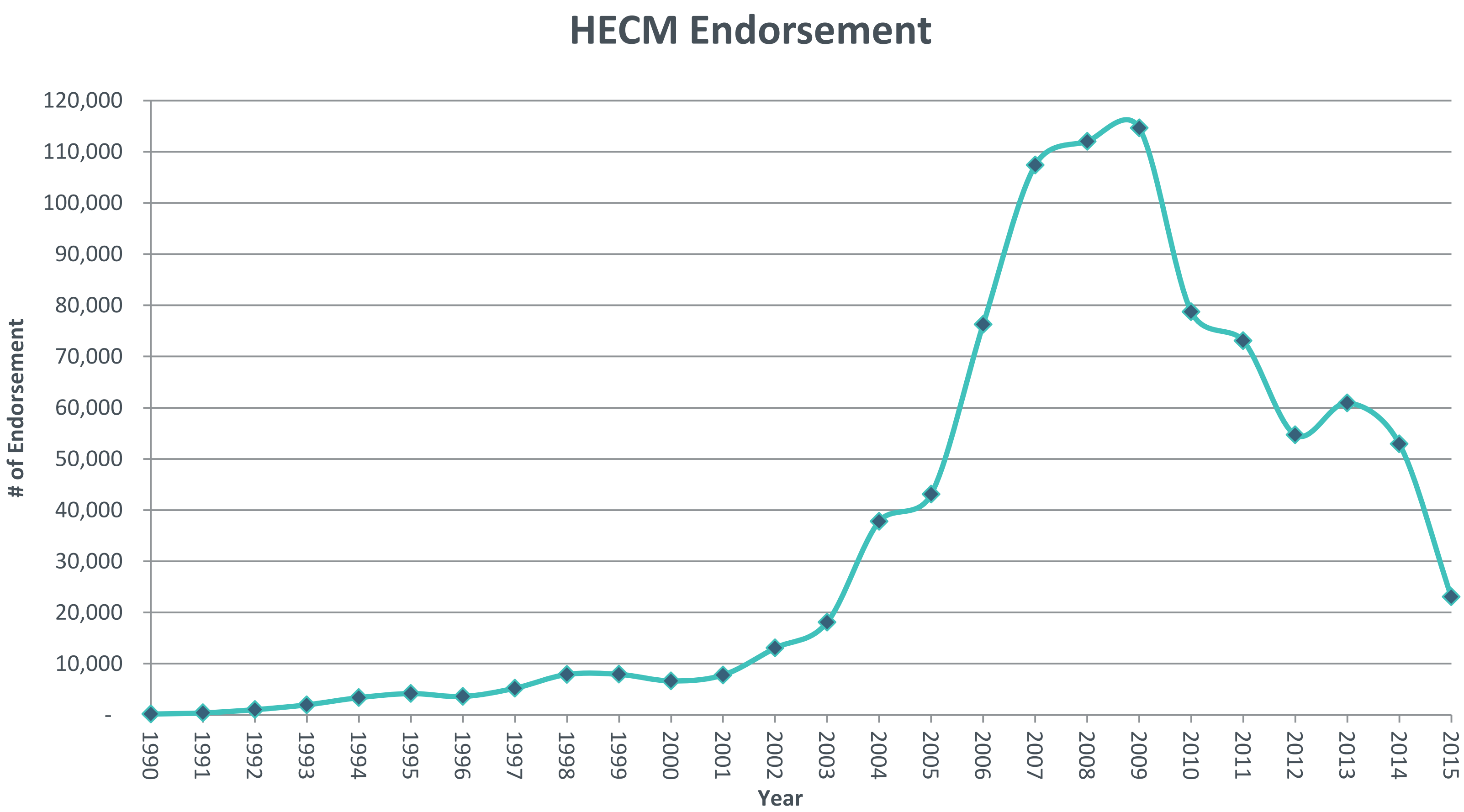
- T&I defaults – Corp advance, Loss reserves, Reputation or media issue
- Possible lawsuit on discrimination, wrongful foreclosure and Predatory lending
- Ginnie/FHA put on hold on HMBS. Decline to increase monthly securitization limit
- Ginnie or FHA may force loan buyback of unqualified loans in the pools
- Liquidity issue, warehouses refuse to finance, buyout due and payable 98% loans, interest rate risk, Balance sheet issue, Issuance cap, MSR valuation

UPDATES

- All major players were left in the past few years: Wells, Bank of America, MetLife
- Maximum drawdown in first 12 months restricted to 60% of IPL or 10% of IPL in case mandatory costs higher than 50% of IPL
- New PLF matrices released. Increased after multiple cuts
- Financial assessment started on April 27, 2015

MSCI

HECM ENDORSEMENT



MSCI

DOMINATED BY A FEW SMALLER PLAYERS

Lender Rank	Past year vol (as of 8/2015)	% of Total
1 AMERICAN ADVISORS GROUP	13,290	24%
2 ONE REVERSE MORTGAGE LLC	5,413	10%
3 RMS/SECURITY ONE LENDING	4,712	9%
4 URBAN FINANCIAL OF AMERICA LLC	3,886	7%
5 LIBERTY HOME EQUITY SOLUTIONS INC	3,780	7%
6 REVERSE MORTGAGE FUNDING LLC	2,165	4%
7 LIVE WELL FINANCIAL INC	1,645	3%
8 PROFICIO MORTGAGE VENTURES LLC	1,471	3%
9 HOME POINT FINANCIAL CORPORATION	1,172	2%
10 UNITED NORTHERN MORTGAGE BANKERS LTD	752	1%
Top 10 total	**38,286**	70%
Industry total	**54,650**	

CONTACT US

AMERICAS

Americas	1 888 588 4567 *
Atlanta	+ 1 404 551 3212
Boston	+ 1 617 532 0920
Chicago	+ 1 312 675 0545
Monterrey	+ 52 81 1253 4020
New York	+ 1 212 804 3901
San Francisco	+ 1 415 836 8800
Sao Paulo	+ 55 11 3706 1360
Toronto	+ 1 416 628 1007

EUROPE, MIDDLE EAST & AFRICA

Cape Town	+ 27 21 673 0100
Frankfurt	+ 49 69 133 859 00
Geneva	+ 41 22 817 9777
London	+ 44 20 7618 2222
Milan	+ 39 02 5849 0415
Paris	0800 91 59 17 *

ASIA PACIFIC

China North	10800 852 1032 *
China South	10800 152 1032 *
Hong Kong	+ 852 2844 9333
Mumbai	+ 91 22 6784 9160
Seoul	00798 8521 3392 *
Singapore	800 852 3749 *
Sydney	+ 61 2 9033 9333
Taipei	008 0112 7513 *
Tokyo	81 3 5290 1555

* = toll free

msci.com

clientservice@msci.com

NOTICE AND DISCLAIMER

MSCI