February 25 2011

GNMA HECM Primer and Relative Value

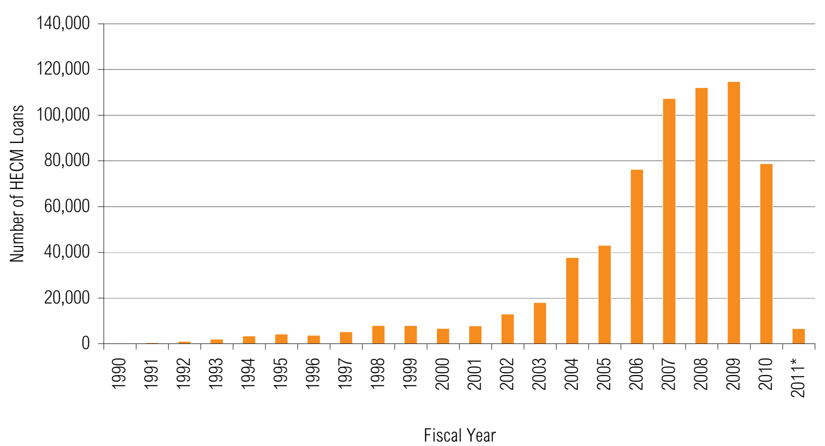
Overview

A reverse mortgage is a type of loan that allows older homeowners (minimum age 62) to stay in their home and draw cash from their home equity but does not require any scheduled mortgage payments during the borrower(s)' lifetime. Instead, the loan accrues interest until a maturity event occurs (such as death of the borrower, sale of the property or prepayment), after which the loan and accrued interest are paid off.

FHA Home Equity Conversion Mortgages (or HECMs) are the most ubiquitous type of reverse mortgage and also the only reverse mortgage program insured by the Federal Government. FHA ensures that the homeowner will receive all draws due them as long as they remain in the home. FHA also guarantees the lender that, when the property is sold, the loan balance (principal and accrued interest) will be fully repaid up to the maximum claim (guarantee) amount established when the loan is originated.

This piece is broken down into two parts. **Part one** is a primer, detailing the FHA HECM loan program, including eligibility requirements, loan structures and repayment scenarios. **Part two,** for those familiar with HECM loans, looks at GNMA HMBS and HREMICs (pools and CMOs backed by FHA HECM loans), including factors affecting prepayments and relative value versus other MBS types.

Figure 1: HECM Origination (number of loans per fiscal year)



* 2011 = Oct 2010 - Nov 2010. Fiscal Year ends Sept 30

Source: FHA, RBS

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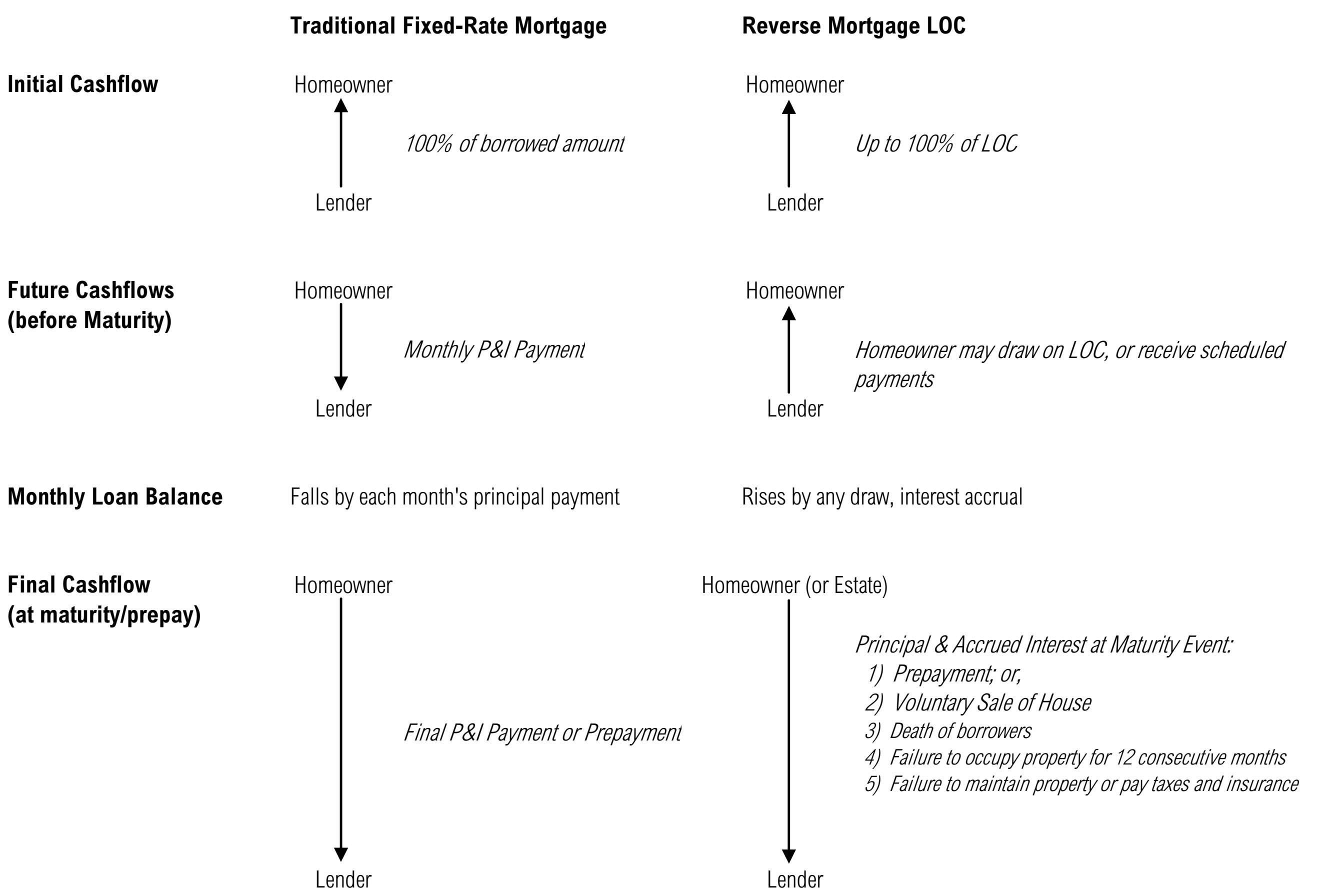
As the average age of the general U.S. population is increasing and traditional means of income for older people (e.g. social security, savings and retirement plans) may be less robust, HECMs should gain popularity.

Part I: HECM Loan Overview

What is a Reverse Mortgage?

Reverse mortgages are loans offered to homeowners 62 years and older. They provide a way for the borrower to remain in their house for their lifetime while being able to draw cash from the equity in a home. Additionally, regular mortgage payments (as in a traditional mortgage) are not required. Instead of scheduled repayments, the reverse mortgage loan is repaid after a maturity event occurs, such as death of the borrower(s), sale of the property, prepayment, or a 12-month vacancy of the house. In addition, a reverse mortgage may only be taken out on a primary residence that is free and clear of other debt or one where the existing mortgage is small enough to be rolled into the reverse mortgage. We illustrate cashflow differences between a traditional fixed rate, level payment, self-liquidating mortgage and a reverse mortgage in the figure below.

Figure 2: Traditional Fixed Rate vs. Reverse Mortgage



Source: RBS, HUD

Under a reverse mortgage arrangement, borrowers cannot be forced to vacate the home, and reverse mortgages are non-recourse, meaning that if the proceeds from the home's sale are not sufficient to pay off the reverse mortgage, neither the estate nor its heirs have any obligation to cover any shortfall.

Many older homeowners live on a fixed income, typically Social Security with perhaps a pension or income from savings, an IRA or defined contribution (e.g. 401K) assets. An older homeowner may find that using a reverse mortgage to tap the equity in their home is more feasible than a regular mortgage if:

- The borrower does not have enough income to cover (or simply does not want to make) regular mortgage payments.
- The borrower needs a stream of income from their house, either for a fixed period of time or their lifetime.

While there are significant costs associated with reverse mortgages, their flexibility often appeals to borrowers who would shun a traditional mortgage, or even a home equity loan because of the need to make regular monthly payments.

There are basically 3 types of reverse mortgage programs:

1. HECM mortgages are guaranteed by the Federal Housing Administration, and hence are full faith and credit of the US government, similar to US Treasuries from a credit perspective. To date, they account for over 90% of the reverse mortgages originated in the U.S. Borrowers are required to pay an up-front and ongoing annual insurance fee. The maximum loan size is governed by FHA loan limits.

2. Home Keeper® mortgages from Fannie Mae. This product is similar to the HECM program.

3. Private label reverse mortgages are available from a number of lenders.

FHA HECMs represent the overwhelming bulk of reverse mortgage origination and remain the focus of this report.

The History of the Reverse Mortgage Market

The FHA HECM program began in 1990. Since then, over 657,000 loans have been endorsed (through Nov 2010). As seen in Figure 1 (first page) 75% of all HECM origination has occurred in 2006 or later.

We show how the average HECM characteristics have changed over time (figure below). The average property value, maximum claim amount (or max amount FHA will insure) and initial principal limits (max loan size) have drifted higher, reflecting increases in conforming loan limits over the years, while the average age of the borrower has steadily declined.

Figure 3: Total HECM Cases Endorsed for Insurance by Fiscal Year of Endorsement Plus Selected Loan and Borrower Characteristics

Data As of 11/30/2010

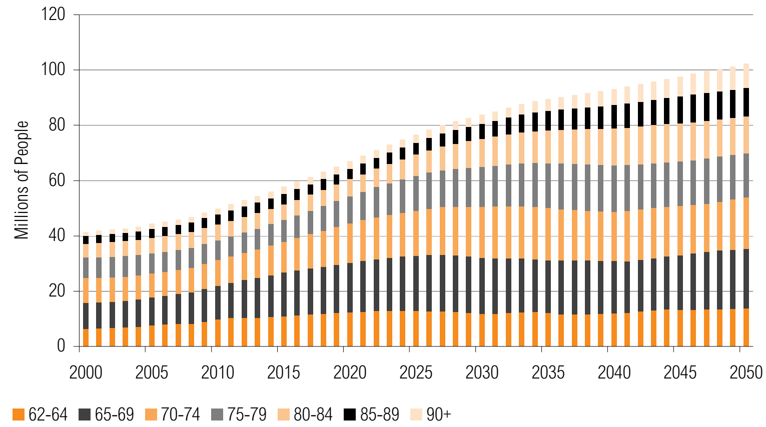
Fiscal Year (Oct 1 to Sep 30)	Number of Loans	Average Expected Interest Rate	Average Property Value (000)	Average Maximum Claim(000)	Average Initial Prin Limit (000)	Average Borrower Age	Borrower(s) Single Female	Borrower(s) Single Male	Borrower(s) Multiple	Active Insured Cases Count	Active Insured Cases Average Unpaid Balance (000)
1990	157	9.8	$108,716.9	$84,208.4	$39,005.1	76.7	57.3%	16.6%	26.1%	2	$98
1991	389	9.3	126414.9	97482.7	43460.1	76.5	56.0%	13.9%	30.1%	1	93
1992	1,019	8.9	124667.9	97415.6	48611.8	76.6	57.7%	15.0%	27.3%	3	191
1993	1,964	7.6	119657.9	97900.7	52600.1	75.7	55.0%	14.4%	30.7%	21	116
1994	3,365	7.6	124944.0	103808.1	58015.4	75.2	54.8%	14.5%	30.8%	30	114
1995	4,166	8.6	124832.0	105367.6	54340.8	76.0	56.5%	13.5%	30.0%	95	126
1996	3,596	6.9	117161.1	103335.3	57305.1	75.9	56.4%	12.5%	31.1%	97	104
1997	5,207	8.1	117502.1	105203.9	57952.5	75.9	56.6%	13.2%	30.2%	244	100
1998	7,895	7.4	118660.3	107018.7	64299.5	75.7	56.0%	14.1%	29.9%	688	92
1999	7,923	6.5	131914.6	117789.3	81619.8	75.3	54.8%	14.5%	30.7%	939	100
2000	6,637	7.3	141669.8	124616.5	78571.4	76.0	56.8%	13.0%	30.2%	1,210	91
2001	7,789	6.7	167141.7	140595.1	97403.2	75.5	54.5%	13.7%	31.9%	1,818	102
2002	13,048	6.4	177977.9	151335.9	109953.1	75.1	51.4%	14.0%	34.7%	4,081	111
2003	18,084	5.4	197554.5	165922.7	131292.4	74.3	48.6%	14.2%	37.2%	6,926	130
2004	37,790	5.8	219437.6	182201.0	133909.7	74.3	48.6%	15.2%	36.2%	18,212	132
2005	43,082	5.7	254864.1	206043.5	144387.7	73.8	46.0%	16.1%	37.9%	27,904	148
2006	76,280	6.0	289660.3	235616.7	158891.6	73.8	44.5%	16.7%	38.8%	60,027	156
2007	107,368	6.0	261939.5	229336.2	155652.1	73.5	44.6%	18.2%	37.2%	94,159	143
2008	112,015	5.4	239337.4	216407.2	153718.7	73.1	43.8%	20.6%	35.6%	103,872	133
2009	114,641	5.5	283307.8	263219.8	183994.4	72.9	41.2%	21.8%	37.0%	108,988	155
2010	78,757	5.7	279880.0	266316.0	175491.5	72.9	42.5%	21.8%	35.6%	77,732	151
2011*	6,551	5.2	$264,950.4	$252,774.2	$163,204.0	72.5	40.6%	20.3%	39.1%	11,830	$123

Data as of 11/30/2010. FY 2011 = Oct 2010-Nov 2010 Source: FHA, RBS

The Reverse Mortgage Market is Poised to Grow

According to the U.S. Census Bureau, between 2010 and 2050, the U.S. population is projected to grow 42%, from 310 million to 439 million. The population is also expected to become much older, with nearly one in five U.S. residents aged 65 and older in 2030. In the figure below, note that the number of people 62 and older is projected to nearly double by 2030. Finally, retirement plans are shifting away from defined benefit plans from an employer and towards employee contribution plans like 401k. As a result, we think there will be many house-rich, cash-poor U.S. citizens of retirement age who want to stay in their homes but need to convert some of their home equity to make ends meet.

Figure 4: Projection of the US Population 62 and Older



Source: U.S. Census Bureau, RBS

Recent Change: It should be noted that Bank of America, one of the larger issuers of reverse mortgages, announced early February 2011 that it would drop reverse mortgages from its menu of lending options.

HECM Borrower and Property Eligibility Requirements

HUD lays out very specific guidelines for HECM eligibility

- The borrower and any co-borrower must

  1. be at least 62 years of age.
  2. own the property outright or have a small mortgage balance that will be rolled into the reverse mortgage.
  3. occupy the property as a principal legal residence.
  4. not be delinquent of any Federal debt. And
  5. participate in a consumer information session given by an approved HECM counselor.

  Note that there are no income or employment qualifications (either minimums or maximums) required of the borrower. However, in early 2011 HUD announced plans to make sure borrowers are creditworthy at some point in the future.

- The following property types are eligible as long as they meet all FHA property standards and flood requirements:

  1. 1-4 family home (with one unit as the borrowers primary residence)
  2. Manufactured housing that meets FHA requirements

3. HUD Approved condos (note co-ops are not eligible).

Note: Homes of any value are eligible but HECM loan size is restricted by FHA loan limits.

HECM Parameters

The maximum loan size of a reverse mortgage (the **Principal Limit or PL**) depends on age, current interest rate, value of the home, and the associated fees[1]. Actuarial tables are used to set the initial principal limit factor (or **PLF**, the amount available to borrow as a percent of the home's value, from which the PL is calculated) but in general, the more valuable the home, the older the borrower, and the lower the interest rate, the more a borrower can take out. We show an example below. Regarding age, if the loan is being taken out by joint borrowers, the age of the youngest borrower is used in calculating the loan amount. Additionally, since PL is based on rates, fees and closing costs, the dollar amount may vary by lender.

Figure 5: Hypothetical Principal Limit per $100,000 Maximum Claim Amount

Age		HECM Standard		HECM Saver	
	Rate	2.51% (1ML+225)	4.99%	3.26% (1ML+300)	5.25%
65		$46,542	$58,542	$33,132	$46,532
70		$49,942	$61,142	$35,532	$48,532
75		$53,642	$64,142	$38,232	$50,232
80		$56,742	$66,642	$41,032	$51,832
85		$62,128	$70,928	$45,318	$55,418

Total Interest Paid = Rate + 125 bps MIP; 3/8 pt closing costs. Source: AARP, HUD

Effective October 4, 2010 (FY 2011), HUD has lowered the effective interest rate floor for PLF determination from 5.50 to 5.00 percent. Thus, all interest rates of 5.00 percent or less will show the same, identical PLFs for each borrower age. In addition, for "expected" interest rates above 10 percent, PLF factors are set to zero. At this time, the actuarial calculations indicate that HUD cannot feasibly offer HECM products if interest rates were to rise to that level. Finally, HUD has changed the PLF cap from age 95 to age 90. Thus, all ages 90 or above will show the same, identical PLFs for each borrower age.

Also effective 2011 FY, HUD reduced the amount of HECM proceeds made available. Roughly, the new Principal limit factor is 10% lower than the previous one.[2] In our view, these changes are more or less in line with other measures that GNMA and FHA have been taking to improve the credit quality of loans. The result of these changes will be that HECM loans originated since October 2010 (1) will be smaller on average, (2) have longer maturities since the loans will take longer to reach the MCA and (3) will potentially slow prepayments for pre-Oct 2010 HMBS.

[1] A reverse mortgage calculator can be found here : http://rmc.ibisreverse.com//rmc_pages/rmc_aarp/aarp_index.aspx

[2] The new PLF tables can be found at: http://www.hud.gov/offices/hsg/sfh/hecm/hecmhomelenders.cfm

The **Maximum Claim Amount (MCA)** is the max amount that FHA will insure for any HECM loan and is generally the lesser of the home value or the national HECM FHA loan limit which is $625,500 for 2011. (The loan limit is set to be 150% of the conforming loan limit, which is currently $417,000)[3].

The Principal Limit and MCA have important implications in a HECM loan. Once the borrower reaches the PL, he can not take out any additional money; however, the loan continues to accrue interest, servicing fees and the Mortgage Insurance Premium (MIP). Once a loan accrues to 98% of the MCA, FHA allows Insurers to assign the loan back to the FHA. Assignment to FHA is one example of repayment, and for the investor in a HECM-backed security, Assignment is considered a prepayment. We will further discuss the importance of assignment on HMBS cash flows in the next section.

HECM Structure

A HECM loan can take one of the following forms:

Line of Credit (LOC): This is the most common form of HECM. This structure allows a borrower to withdraw money at will, at the commencement of the loan or any time after, until the LOC is used up. There is no schedule upon which the borrower receives payments. Note that the LOC grows automatically as the borrower ages, meaning the unused portion of the LOC increases each year. *Adjustable rate only (assuming not cash lump sum).*

- **Cash Lump Sum:** Up-front one-time withdrawal (like an LOC drawn all at once). This is not very common. *Borrower can choose fixed or adjustable rate*.

Tenure: (looks like a life annuity) the loan pays equal monthly payments as long as at least one borrower lives and continues to occupy the property as a principal residence. *Borrower can choose fixed or adjustable rate*.

Term: (looks like a fixed-term annuity) the loan pays equal monthly payments for a fixed period of months selected by the borrower. *Borrower can choose fixed or adjustable rate*.

Modified Tenure: This is a combination of a line of credit plus monthly payments for as long as one borrower remains in the property. *Adjustable rate only.*

Modified Term: This is a combination of a line of credit plus monthly payments for a fixed period of months selected by the borrower. *Adjustable rate only.*

LOC, Modified Tenure and Modified Term are all adjustable rate products. In the case of cash lump sum, tenure and term, borrowers

[3] Prior to 2009, the HECM limit was set equal to the conforming loan limit. Note that the HECM MCA does not vary by location, unlike regular FHA and VA loan limits.

also have flexibility in determining how the interest on the loan is calculated, choosing either a fixed rate or an adjusting rate. Furthermore, borrowers can choose between monthly (more common) or annual reset (much less common) off of the CMT or LIBOR. Different adjustable rates are subject to different caps as well.

- Monthly Adjustable, CMT Index: the loan is subject to a lifetime cap established by the lender at origination
- Annually Adjustable, CMT Index: the loan is subject to a 2% annual cap and a 5% lifetime cap
- Monthly Adjustable, LIBOR: the loan is subject to a lifetime cap established by the lender at origination
- Annually Adjustable, LIBOR: the loan is subject to a 2% annual cap and a 5% lifetime cap

Costs and Fees

Similar to other FHA loans, a HECM loan includes several fees, including an origination fee, closing costs, and mortgage insurance premium. The borrower can finance the costs into the HECM and repay them from the proceeds of the loan. However, financing the costs as part of the loan also reduces the principal limit available. We list and briefly describe the fees below:

- Origination Fees:

    1. For homes less than $125,000, the max a lender can charge is $2,500
    2. For homes valued at $125,000 or more, lenders can charge 2% of the first $200,000 of the home's value plus 1% of the amount over $200,000.
    3. Max origination fees are capped at $6,000.

- Third Party Closing Costs: can include appraisal, title search, surveys, inspections, recording fees, mortgage taxes, credit checks and other fees.

- Mortgage Insurance Premium (MIP):

    1. Initial MIP is charged at closing and is 2% of the Maximum Claim Amount on HECM Standard loans and 0.01% of the MCA on HECM Saver loans (Saver Loan program began Oct 4, 2010)[4]
    2. For the life of the loan, MIP is charged monthly at an annual rate of 125 bps. (note that the most recent

[4] The main distinctions between HECM Standard and HECM Saver are the upfront MIPs and the allowable loan amounts. More detailed information regarding the two plans can be found in HUD's September 21, 2010 Mortgagee Letter, found here: http://www.hud.gov/offices/adm/hudclips/letters/mortgagee/files/10-34ml.pdf

increase (+25bps) to annual MIP for FHA loans assigned after April 2011 does not apply to HECMs)

- Servicing Fee: accrues monthly

    1. $30 if the interest rate on the loan is fixed or adjusts annually

    2. $35 if the loan adjusts monthly

Repayment Options

Repayment generally occurs at the end of the loan, unlike traditional mortgages which have monthly scheduled payments. However note that there is no penalty charged to the borrower if he voluntarily prepays. The loan (including accrued interest, MIP and other fees that were financed) must be paid in full once one of the following occurs:

- The last surviving borrower dies.

- The property is sold.

- The borrower does not pay property taxes or hazard insurance or violates other obligations.

- The borrower permanently moves to a new principal residence.

- The borrower fails to live in the home for 12 months in a row.

- The borrower allows the property to deteriorate and does not make necessary repairs.

Historically, the vast majority of payments made to the lender are from the borrower, through either the sale of the home, refinancing, or with other funds. However in the rest of cases, FHA bought the loan from the lender. In most of these instances, the borrower’s loan balance has reached 98% of the MCA, so lenders assign the loan to FHA in exchange for 100% of the outstanding accrued balance.

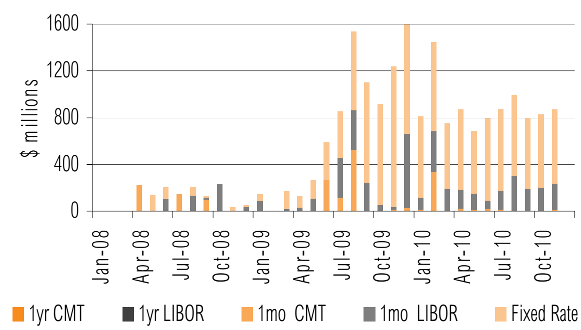
In other instances, FHA paid a claim to the lender because the proceeds from the sale of the home were less than the balance due. Note that borrowers cannot be forced to vacate the home (assuming they are current with property taxes and hazard insurance, maintain their property, and do not vacate it for longer than 12 consecutive months), and reverse mortgages are non-recourse, meaning that if the proceeds from the home’s sale are not sufficient to pay off the reverse mortgage, the estate or the heirs still do not have any obligation.

PART II: HMBS and Relative Value

GNMA HMBS and HREMICs

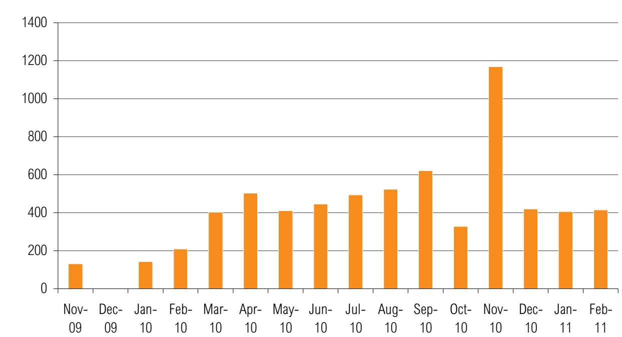
Balances related to a HECM loan (called **participations**) can be pooled into HECM Securities (or HMBS), which are guaranteed by GNMA. As a result, they carry the full faith and credit of the US government, and are credit-comparable to US Treasuries. GNMA's involvement began in 2007. Prior to that FHA HECMs existed but were mostly securitized in non-agency MBS. GNMA HECM pool issuance was fairly limited at first, but picked up starting 2H09 (chart below left) when GNMA began structuring REMICs off HMBS (HREMICs). The chart below right shows monthly HREMIC issuance, to date there have been 35 deals done since the first one in late 2009 (GNR 2009-H01).

Figure 6: GNMA HMBS: Monthly Issuance



Source: CPR CDR, RBS

Figure 7: GNMA Monthly HREMIC Issuance



Source: GNMA, RBS

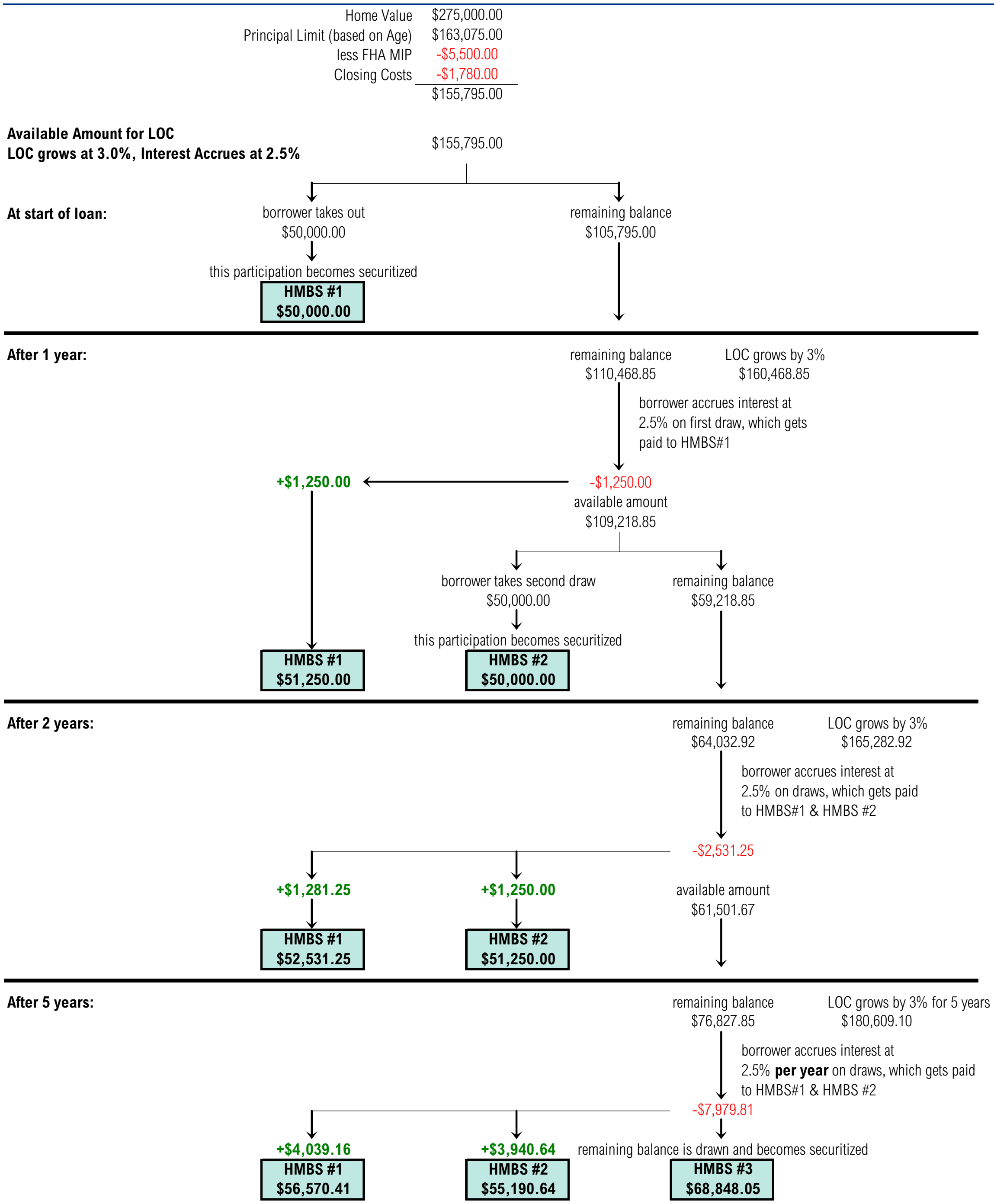
HMBS are interest-accrual pass-through securities and therefore do not provide scheduled payments of principal or interest to investors. However, investors will receive unscheduled payments (principal and interest) when the borrower (or borrower's estate) repays the loan either voluntarily or after a repayment event occurs. In addition, when a loan reaches 98% of MCA, the participation is bought out of the HMBS security and the payment is passed on to the borrower.

While HMBS looks like an accruing-interest mortgage bond that returns cash whenever a payment event occurs, in some ways they can be more complicated. 2 main intricacies are:

1) Participations (balances) are securitized so one HECM loan can be represented in more than one HMBS pool. For example, in the most common type of HECM loan, the LOC, suppose a borrower makes 3 separate draws over time, each $50,000. These can be securitized into 3 separate HMBS pools. However prepays are distributed pro-rata.

2) The accrual rate and LOC growth rate of the collateral can be different. The underlying balance from an LOC accrues at one variable rate, but the LOC also increases each year at the rate the loan balance is expected to grow. Given the variable nature of a Line of Credit (meaning it can be drawn at any time); the future balance growth is rate is unknown.

Figure 8: Participations from the same HECM Loan can get pooled separately



Source: RBS, HUD

We show how securitization of participations works in the above example. Suppose a borrower has a home worth $275,000. Based on principal limit tables, his principal limit is $163,075 given this home value, his age and the interest rate provided by the lender. After borrowing closing costs and the MIP, there is $155,795 available to the borrower which he uses as a LOC. We assume the line of credit grows at 3%/year (based on a projected interest rate) and the interest accrues at 2.5% / year- these rates are usually variable but for simplicity we assume it doesn't change and a simple annual compounding rate.

We see that if the borrower makes an initial draw of $50,000 at inception, this participation accrues (at a rate of 2.5% / year per our assumption) to $51,250 after 1 year, $52,531.25 in 2 years and $56,570.41 in 5 years. If this participation is securitized, the HMBS current face will also grow by this amount.

Subsequent draws are securitized separately but continue to accrue in the same fashion. Despite participations being pooled separately, in the event of a prepayment, all draws receive P&I pro rate. We discuss this in the next section.

GNMA vs. Private-Label Execution

FHA HECM mortgages have been securitized into both non-Agency and Ginnie Mae HMBS. In the table below, we show a few key differences between a GNMA-wrapped HECM MBS and a private label deal holding HECMS as collateral. For example, the GNMA MBS has the credit quality of a US Treasury, and is structured as an accrual bond, while the private label MBS requires credit enhancement such as reserves, but has the flexibility to make current pay bonds. Also, in GNMA securitization, a loan can be split into participations to securitize multiple HMBS, as HMBS are funded over time whereas in Non-agency Reverse mortgage MBS, a loan cannot be split and used as collateral in different securities.

Figure 9: Comparison of HECM Backed Security Structures

Private Execution	Ginnie Mae HMBS
Whole loan securitized, funded and unfunded.	Funded balances only. Securitized as Participations.
Reserve required to fund future borrower draws and advances.	No reserve required. Future borrower draws and advances securitized in subsequent HMBS.
	Can be used as collateral in conjunction with Ginnie Mae forward collateral in HREMIC.
Current pay	Accrual bond.
Tranched structure.	Payments distributed pari passu.
AAA	Guaranteed by the full faith and credit of the United States Government.

Source: HUD.

HMBS Pooling

HMBS pools may only be issued under the GNMA II program. Each HMBS pool must be originated and administered by a single HMBS issuer. Fixed rate HECM loans cannot be pooled with adjustable rate HECM loans. Based on the interest rate option on the underlying participations, the pools will have the following suffixes:

- RF: fixed rate

- RM: adjustable rate, monthly reset CMT
- RA: adjustable rate, annual reset CMT
- ML: adjustable rate, monthly reset LIBOR
- AL: adjustable rate, annual reset LIBOR

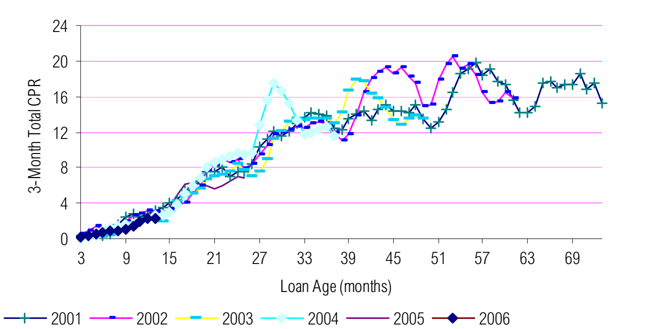
Furthermore, for adjustable rate HMBS, the loans must have the same reset date and frequency. The minimum pool size is $1,000,000 and must be backed by at least 3 participations each relating to a distinct HECM loan.

HMBS Prepayments

Because HECM loans do not have scheduled maturity dates, but since a maturity date is required for securities by the Federal Reserve, HECM Pools are given maturities of 50 years. In reality, HECMs pay-off much sooner than that on average, due to refinancing, assignment to HUD, mobility, or borrower death. The majority of HECM loans terminate or are assigned to HUD within ~7 years.

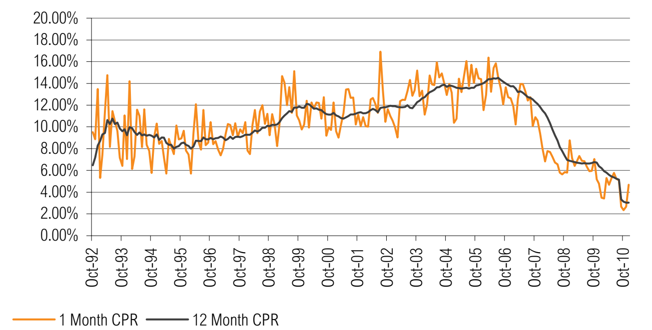
HECM mortgages, similar to a traditional mortgage, demonstrate a pronounced seasoning curve. In the figure below (left), we show historical HECM seasoning curve by origination year for several origination year cohorts. In the chart below right, we show a time series for seasoned HECMs (greater than 24 WALA). We see that HECM prepayments have come down considerably from their peak in 2006.

Figure 10: HECM Aging curve: 2001-06 Origination



Source: FHA, RBS

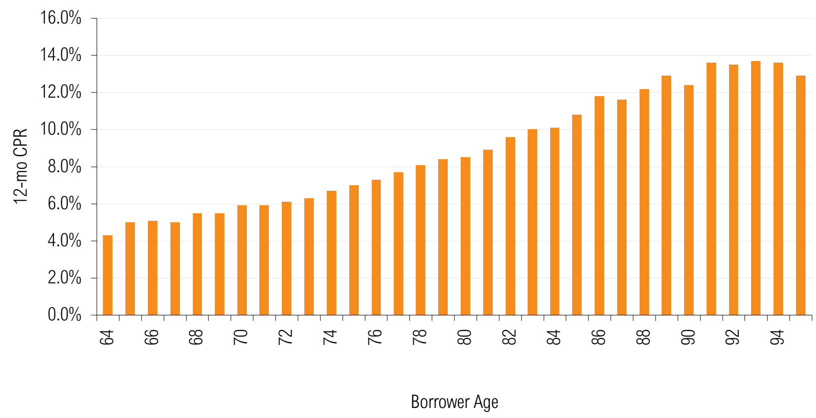
Figure 11: Reverse Mortgage Prepayment Index (WALA>24mo)



Source: New View Advisors, RBS

Borrower age has a direct correlation with prepayments, as historical evidence shows older borrowers repay much faster than their younger counterparts within similar seasoning range. In the figure below, we show the average 12-month CPR by borrower age for HECMs originated Jan 2001 – Jan 2010. The 12-month CPR for borrowers for borrowers in their 60s averages ~5%, roughly 7 CPR lower than borrowers in their 90s.

Figure 12: HECM Prepayments by Borrower Age (Jan 1991- Jan 2010)



Source: New View Advisors, HUD.

As discussed earlier in our primer, the average age for more recent HECMs is declining, largely due to an increasing number of younger borrowers, which helps explain the recent slower prepayments. If the distribution of borrower age in a HECM pool continues to drift towards the younger population, we would expect HECM prepayments to remain muted, holding other variables constant.

FYE 2011 HECM Program Changes and Effect on Prepayments

Recent Change: As described above, HUD made a number of changes to its HECM program effective FY 2011 (October 4, 2010), two of which should have significant (but opposite) impact on prepayments.

First, the new HECM Saver will make it easier for an existing HECM borrower to refinance (into a HECM Saver). Since the HECM Saver has virtually no up-front fees vs. the Standard Program (1 bp vs 200 bps), then any borrower who chooses to refinance in order to take advantage of a lower rate or different HECM loan amount or type (fixed to floating, LOC to tenure, etc.) can do so readily. However, the HECM Saver has a much lower PLF compared to the HECM Standard (ranging from 25%-30% less).Recall that borrower age and home value are the primary eligibility requirements for a HECM loan. There are no borrower credit, income or asset tests.

Second, the new PLF tables mean that any new HECM loan will be sized smaller than before the change. This will have the effect reducing refinancings for pre-Oct 2010 HECM borrowers, especially those who are near or at their PLF.

Recent Change: Additionally, HUD announced in February, 2011, that it plans to eventually require borrowers to be creditworthy before being able to obtain a HECM which can also curb refinancing and hamper new issuance.

HPC Prepayment Curve

100% HPC

Month	CPR	Increase/ month
1	-	0.50
12	6.0	0.29
24	9.5	0.17
48	13.5	0.12
240	37.0	0.05
360	43.0	.

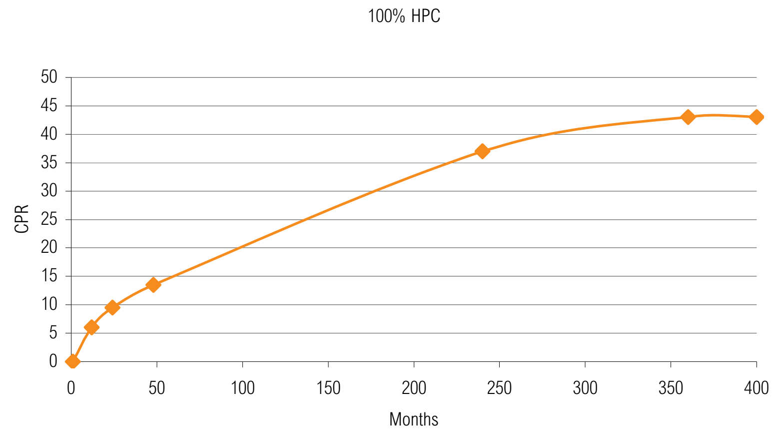
Source: Bloomberg

The HPC Prepayment Convention

The "HPC" (Home Equity Conversion Mortgage Prepayment, or MHP on Bloomberg) curve is a step-function prepayment scale with a 360-month seasoning ramp. The convention is meant to reflect seasoning behavior of a HECM borrower.

A prepayment rate of 100% HPC equates to a starting rate of 0.0% CPR gradually increasing to the CPR rates associated with the referenced months in the table (left). For example, in months 24-48, 100% HPC means 9.50% CPR in month 24, 9.67% in month 25, reaching 13.5 CPR in month 48.100% HPC terminates at 43.0% on the 360th month. A constant 43.0% CPR is assumed for the remaining life of the mortgage.

Figure 13: 100% HPC – HMBS Prepayment Curve



Source: Bloomberg.

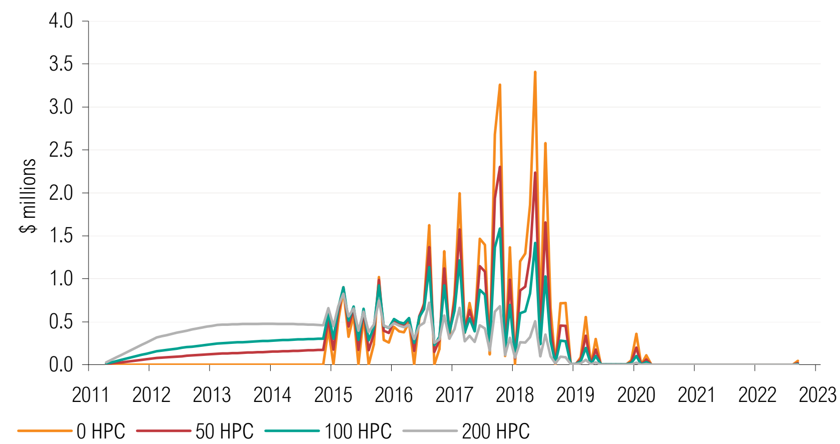
HECMs are generally priced to a spread on the HPC curve. Based on historical evidence, we believe HMBS seasoning ramp is very close to the actual HPC curve.

Predicted Cash Flows

HECMs have no predefined cash flows so assumptions must be made on draw amount, draw frequency, and prepayments. Since the underlying HECM collateral has no scheduled payments, the HMBS accrues interest HMBS. Instead, the cashflows of the HMBS are fully dependent on prepayments. Rate-related refinances are a less common source of prepayments, unlike a traditional mortgage. Other causes of prepayments, such as borrower mobility, borrower death or assignment to FHA, are more common. As a result, a HECM pool's cashflows are somewhat erratic, as seen in the chart below (next page).

Below we plot the cashflows from a sample deal, TEMP RBS-H10 HMBS under different speed assumptions: 0 HPC, 50 HPC, 100 HPC and 200 HPC. Given that there are no "scheduled" payments to the underlying, we see no cashflows in the first three years under the 0 HPC (no prepays) assumption. Across all scenarios (including 0 HPC), the jagged cashflow graphs represent the prepayments that come in as a result of assignment (loan reaching 98% of MCA). Also, we see that as prepays increase, so do cashflows for the first 3-4 years.

Figure 14: Sample Cash Flows for HREMIC: TEMP RBS-H10 HMBS



Source: Bloomberg.

When a HECM loan is prepaid (either partially or in full), available funds come into the deal and are then distributed to each securitized participation pari passu:

Figure 15: Example: In the Event of Prepayment, Participations Receive Cash Flow Pro-Rata

Home Value	$275,000.00				
Principal Limit (based on Age)	$163,075.00				
less FHA MIP	$5,500.00				
Closing Costs	$1,780.00				
	$155,795.00				
Initial Amount for LOC	$155,795.00				
LOC grows at 3.0%, Interest Accrues at 2.5%					
	Draws			Total Draws + Interest	Remaining Balance for LOC
Initial Draw:	HMBS #1 $50,000.00			$50,000.00	$105,795.00
After 1 year:	HMBS #1 $51,250.00	HMBS #2 $50,000.00		$101,250.00	$59,218.85
After 2 years:	HMBS #1 $52,531.25	HMBS #2 $51,250.00		$103,781.25	$61,501.67
. . .					
At 5 years:	HMBS #1 $56,570.41	HMBS #2 $55,190.64	HMBS #3 $68,848.04	$180,609.10	$0.00
	31.32%	30.56%	38.12%		
Borrower Makes Partial Prepay:	$50,000.00				
Participations receive payments pro rata:	$15,661.01	$15,279.03	$19,059.96		
HMBSs experience prepays pro rata	HMBS #1 $56,570.41 -$15,661.01 $40,909.40	HMBS #2 $55,190.64 -$15,279.03 $39,911.61	HMBS #3 $68,848.04 -$19,059.96 $49,788.08		

Source: RBS

The chart above refers to our example from earlier. Let's assume a borrower draws his line of credit three times: at closing, after 1 year, and after 5 years. The draws ($50k, $50k and $68.848k respectively) are separately securitized into three separate HMBS pools. However, if a borrower curtails, say for $50k, that amount gets divided to pay a part of each participation simultaneously, despite HMBS 1 being originated 5 years before HMBS 3. As a result, each HMBS pool experiences a prepayment and receives cash proportionate to its outstanding size.

Relative Value

HMBS and HREMIC Securities are attractive to investors for a number of reasons. First, they are GNMA MBS so they benefit from the full-faith and credit of the US government and trade at a 0% risk weighting. Additionally, as these products tend to be less rate sensitive and more age sensitive, HMBS offer good convexity. The cashflows can be erratic, but the investor is often compensated with a yield pick to other assets, which makes HMBS an attractive investment for yield and total return oriented investors, but less appealing to current income seeking investors.

In the example below, we compare a new-issue HREMIC (a simple pass-through structure) TEMP RBS-H10 HMBS to a GNI 5% TBA pass-through and GNR 2010-91 GA, a 4X4 3.4 year sequential CMO. The HREMIC has a coupon of 4.815% is backed by fixed-rate HECM participations (GWAC 5.065%, 1 WALA, 599 WALA). All three securities are priced around $105 with 4.5% to 5% coupon range.

Figure 16: Yield and Average Life Profiles of GNMA Securities

GNSF 5.0, 30- year passthrough, Price: 105-24+, Settle: 3/21/11							
Cpn: 5.0%, GWAC: 5.50%, WAM: 344, WALA: 16							
Shift	300	200	100	0	-100	-200	-300
PSA	114	132	192	347	665	956	1015
Yield	4.212	4.156	3.962	3.419	2.166	0.854	0.563
WAL	9.65	8.88	6.92	4.20	2.19	1.45	1.35
Spread/N	67/AL	73/AL	94/AL	136/AL	114/AL	0/AL	-27/AL
GNR 2010-91 GA, 4.5x4.5 SEQ, Price: 104-26, Settle: 2/28/11							
Cpn: 4.5%, GWAC: 4.924%, WAM: 346, WALA: 13							
Shift	300	200	100	0	-100	-200	-300
PSA	109	121	148	223	540	1135	1368
Yield	3.570	3.511	3.375	2.942	1.417	-1.420	-2.598
WAL	6.10	5.68	4.91	3.42	1.66	0.84	0.70
Spread/N	78/AL	86/AL	101/AL	125/AL	54/AL	-211/AL	-320/AL
TEMP RBS-H10 HMBS, HECM CMO, Price: 105-05, Settle: 3/23/11							
Cpn: 4.81477%, GWAC: 5.065%, WAM: 599 WALA: 1							
MHP	0	20	50	100	125	150	200
Yield	3.999	3.950	3.872	3.735	3.662	3.587	3.431
WAL	6.38	6.27	6.06	5.35	5.01	4.70	4.15
Spread/N	114/AL	112/AL	111/AL	122/AL	127/AL	132/AL	140/AL

Source: Bloomberg, RBS.

For the traditional MBS bonds, we use the Bloomberg Consensus speeds for the rate shift scenarios. For HMBS bond speeds, we use percentage of MHP (or HPC, as discussed above). For example, in the base case, we use 100% MHP (corresponding to roughly a 10 CPR average-life equivalent CPR).

The HMBS has a higher yield than the pass-through and CMO over a variety of scenarios. In the base case, the HMBS yields 3.73% at 100% MHP, vs. 3.42% for the pass-through and 2.94% for the CMO. We see how stable the HREMIC's yield and WALs are, given their low sensitivity to rates. This property is especially valuable in deep rallies, where the PT and CMO give in yield.