Financial Sustainability and the **Home Equity Conversion Mortgage: Advancing Fiscal Soundness** and Affordable Financing for **Senior Homeowners**

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Abstract

The Home Equity Conversion Mortgage (HECM) has undergone significant changes in its 25-year history since its modest start as a 2,500-loan pilot in 1987 to its nearly one million endorsements at the end of 2015. The Great Recession more recently underscored the need for measures to secure the financial sustainability of these reverse mortgages. Such measures have sought to mitigate risk and improve the financial health of the HECM program while promoting affordable financing through the HECM mortgagebacked securities, or HMBS, program. Improved fiscal soundness for HECM ensures the program is viable and continues to provide affordable financing in the conversion of home equity for senior homeowners. This article examines changes made toward increasing the financial sustainability of HECM through fiscal soundness and the facilitation of affordable financing. These changes are especially relevant as American households continue to age and seek the option to affordably access their housing wealth while remaining in their home.

Introduction

The U.S. Congress enacted the Home Equity Conversion Mortgage (HECM) "to meet the special needs of elderly homeowners by reducing the effect of [...] economic hardship" and "to encourage" increased involvement of mortgage market actors in the production and servicing of such reverse mortgages. 1.2 The two resulting HECM programs within the U.S. Department of Housing and Urban Development (HUD)—the Federal Housing Administration (FHA) HECM program and the Ginnie Mae HECM mortgage-backed securities (HMBS) program—facilitate access to affordable financing for eligible senior homeowners seeking to borrow against their home equity and stay in their home while not making monthly mortgage repayments.3 Although the reverse mortgage is a relatively specialized component of the mortgage market, 4 the provision of government insurance has resulted in a reverse mortgage market in which FHA-insured HECMs constitute 90 to 95 percent of the total number of reverse mortgages⁵ (Moulton, Haurin, and Shi, 2014). As a consequence, HECM has become an important tool for the federal government in providing a social safety net for seniors. Nonetheless, this program has been tempered by financial constraints accentuated by the most recent economic downturn.

In the past decade, HECM governance underwent significant changes and refinements. The purpose of many of these changes was to enhance financial sustainability both in terms of fiscal soundness for FHA's HECM insurance program and of affordable financing facilitated through Ginnie Mae's HMBS program. These changes have been challenging, given financial realities constraining the extent of HECM's social benefits. The following article examines recent modifications to the HECM program that focus on changes made to promote greater financial sustainability. This analysis provides insights to further inform policy design and innovation in securing the viability of HECM and continuing to enable aging in place^{6,7} for many senior homeowners.

Fiscal Soundness and the HECM Insurance Program

In the HECM insurance program, FHA insures participating reverse mortgage lenders against realized losses on HECM loans. The provision of insurance on HECMs is essential to the program's functioning and the borrower's access, but it also presents risks that must be mitigated to promote

¹ Reverse mortgage is defined as a loan in which the homeowner borrows against the value of the home. Under this arrangement, no principal and interest repayment is required for the borrower until the borrower dies or sells the home.

² Housing and Community Development Act of 1987, Pub. L. 100-242, 101 Stat. 1015.

³ From fiscal year (FY) 1990 to FY 2015, HUD reported 949,858 HECM endorsements originated. FHA-insured reverse mortgages represent much of the nonjumbo reverse mortgage market.

⁴ HECMs are estimated to represent 0.50 to 0.60 percent of the total mortgage market. HECMs exceeded 1.00 percent of the market in 2008, with 112,154 endorsements, despite more endorsements, at 114,692, in 2009. The estimates are the authors' calculations using sources from HUD and the Mortgage Bankers Association.

⁵ Fewer private-label reverse mortgages exist.

⁶ Aging in place can be defined as "the ability to live in one's own home and community safely, independently, and comfortably, regardless of age, income or ability level" (CDC, 2013: 1).

⁷ Aging in place is an important component of the HECM program, because lower-income seniors who have lived in a modestly priced home that they have fully or nearly paid off may be especially reluctant to sell the home and buy or rent new housing. HECM provides a unique financing mechanism to ensure seniors remain in their home and age in place (HUD, 2015a).

financial sustainability in the program. The open-ended nature inherent to reverse mortgages, especially compared with forward mortgages, presents a fundamental risk to the fiscal soundness of the program that must be addressed. Under their respective terms, reverse mortgages typically become due and payable in the event of morbidity, mobility, or prepayment. Repayment occurs in instances of the borrower's death, moving out, sale of the home, loan repayment on his or her own volition, or failure to meet the obligations of the mortgage—such as property tax, insurance payments, or maintenance costs. By comparison, reverse mortgages differ greatly from the regular and periodic payments of principal and interest toward termination on forward mortgages.

Without guaranteed insurance, existential and scalability challenges exist for reverse mortgage products, which are attributable to distinct long-term capital constraints that HECM loans impose that require lenders to allow senior borrowers to remain in their homes for an undetermined amount of time without loan repayments. The open-ended maturity of HECM is unique. A fixed-rate, 30-year forward mortgage has a set maturity timeline for the borrower to fulfill the terms of the housing loan.8 On the other hand, HECM loan termination is unscheduled. In large part, HECM maturities can be approximated to a fair degree through actuarial factors related to the borrower's longevity and morbidity. No fixed termination date exists, however, because the loan will become due and payable only when the borrower passes on, moves, sells his or her home, or voluntarily prepays.

In practice, should a 72-year-old woman⁹ take out a HECM loan, the lender could approximate¹⁰ the life expectancy of the borrower to mirror the national average age for American women at 81.2 years. In the event the borrower lives to the age of 90 years, however, the lender is constrained by the open-ended nature of its obligated capital. In this instance, the lender is constrained with the set allocation of capital for an additional 8 years or more from the original estimates. The longer time horizon presents added risk for the lender, including variability related to home price appreciation and interest rates. Should economic tumult occur when HECM matures and home prices decline, the scenario could incentivize borrowers and their heirs to walk away from repayment. In the resulting default, the lender would resort to liquidating collateral to attempt to recapture some form of its investment. Yet, repayment would likely be less than the original value compared with when HECM was issued and insured to the borrower some 18 years or more before. This example illustrates the dilemma between the HECM insurance program's innovation and challenges in managing the financial health of the program.

HECM innovatively provides a significant social benefit in terms of aging in place. The innovation concurrently requires fiscal scrutiny in the provision of government insurance. FHA-insured reverse mortgages provide lenders with certainty in recapturing potential losses incurred through their lending of capital to senior borrowers. Nevertheless, through the provision of insurance, government resources are at risk. Although the government provides insurance on these reverse mortgages, due in the event the borrowers default because of inability to meet HECM loan obligations, the fiscal resources to support are intended to ultimately come from the insurance premiums paid from the borrowers into the insurance fund. Such program design makes the HECM program self-sustaining, with premiums supporting any prospective losses. Premiums are supposed to be designed to cover losses.

⁸ In fact, without prepayment penalties, it can be argued that forward mortgages incentivize earlier repayment of loan obligations.

⁹ The average age of a HECM borrower was reported as 71.8 years in 2014 (HUD, 2015b).

¹⁰ In reality, lenders use much more specific and targeted analytics to assess borrower mortality.

Growth in lender-filed insurance claims can jeopardize the funding mechanism supporting HECM loans. Through the Mutual Mortgage Insurance (MMI) Fund, lenders file insurance claims that are evaluated and adjudicated to determine payouts, as appropriate, by the MMI Fund. Insurance enables lenders to recapture losses incurred by defaults. As a consequence, HECM insurance claim payouts have the potential to undermine the fiscal soundness of the HECM insurance program, especially in cases of unexpected surges in HECM defaults. Such risks accordingly were underscored in the economic stress of the Great Recession (December 2007 to June 2009), exacerbated by a trend of lending higher risk HECM loans (HUD, 2015a).

Demand for HECM loans grew in the immediate aftermath of the Great Recession. Because many households had limited access to financial resources, senior homeowners sought to liquidate their housing wealth to meet their short-term living needs. Senior liquidation led to increased HECM risk and contributed to diminishing fiscal soundness for the HECM insurance program. Borrowers, markedly younger and with higher amounts of property indebtedness, were unable to meet their financial obligations under HECM and, subsequently, defaulted on loans. Government insurance on these riskier loans placed increased financial stress on the MMI Fund, and its fiscal resources experienced an accelerated rate of payouts funding HECM insurance compensation to lenders.

In due time, the MMI Fund's HECM financing account required FHA to request a mandatory appropriation of \$1.7 billion at the end of 2013, marking the first time FHA used such an authority in its 79-year history (CBO, 2013; HUD, 2013). Although the requested mandatory appropriation was unprecedented, it was not the first time a fund transfer had occurred. In fact, a transfer from the forward mortgage portfolio of \$4.26 billion accompanied this \$1.7 billion infusion into the HECM financing account in 2013. As illustrated by exhibit 1, the MMI Fund has transferred funds between the HECM and forward mortgage financing accounts numerous times since 2009. The transfers demonstrate the precarious financial health of the HECM insurance program and the extent of pressures placed on the MMI Fund.

In response to the Great Recession, FHA used its authority—through the design and administration of guidelines for reverse mortgages to be considered for government insurance—to make programmatic changes. The modifications largely had the intention of managing FHA's portfolio risk to improve the HECM insurance program's financial sustainability. Such changes followed Congress's initial postrecession reforms focused on incorporating strengthened consumer protections into the HECM insurance program. Protections included independent counseling for prospective HECM borrowers, prohibitions on HECM lenders' selling other financial or insurance products, and limits on origination fees. 11

Following the MMI Fund's projected 2012 losses, Congress legislated additional safety and soundness requirements for the program by empowering the Secretary of HUD to determine necessary actions "to improve the fiscal safety and soundness of the program..." The legislation resulted in multiple changes by FHA to improve the fiscal soundness of the HECM insurance program. The purpose of the programmatic changes and refinements centered on the principle that, without fiscal solvency, the financial health of HECM loans would be threatened as would be the option for senior homeowners to age in place while accessing affordable financing in the liquidation of their housing wealth.

¹¹ Housing and Economic Recovery Act of 2008, Pub. L. 110-289, Section 2122.

¹² Reverse Mortgage Stabilization Act of 2013, Pub. L. 113-29.

Exhibit 1

MMI Fund Portfolio, HECM and Forward Mortgage Accounts, Economic Value, and Fund Transfers: 2009-2015

Fiscal Year	HECM Economic Value ^a (\$)		Forward Mortgage Economic Value ^a (\$)	Fund Transfers ^b
2009 2010	909,000,000 - 503,000,000	←	2,732,000,000 5,160,000,000	None \$1.748 billion transfer in May 2010 to HECM financing account from forward mortgages financing account to cover expected net cost of HECM FY 2009 book of business°
2011	1,358,000,000	←	1,193,000,000	\$535 million transfer in May 2011 to HECM financing account from forward mortgages financing account to cover the increase in expected HECM losses ^c
2012	-2,799,000,000		- 13,478,000,000	None
2013	6,540,000,000	←	- 7,871,000,000	\$4.26 billion transfer to HECM financing account from forward mortgages financing account ^c
2014	- 1,166,000,000	\rightarrow	5,930,000,000	\$770 million transfer to forward mortgages financing account from the HECM financing account. Without the transfer, forward mortgages account economic value would have been \$2.68 billion lower than the FY 2013 estimate ^d
2015	6,778,000,000		17,044,000,000	None
2016	-7,721,000,000		35,270,000,000	None

FY = fiscal year. HECM = Home Equity Conversion Mortgage. MMI = Mutual Mortgage Insurance.

Note: HECM financing account and forward mortgage financing account are italicized for ease of reference. Sources: FHA (2016, 2015a, 2014a, 2013a, 2012, 2011, 2010, 2009)

Advancing the Financial Health of the HECM Insurance **Program**

Significant deterioration in the financial health of the HECM insurance program underscored the need to strengthen the capital position of the MMI Fund's HECM portfolio. Whether risk inherent in the HECM model, economic pressures, housing price depreciation, or borrower negligence in meeting the obligations on these loans, the need for reforms became clear. FHA needed to make changes to advance the program's fiscal soundness. Through the Reverse Mortgage Stabilization Act of 2013, Congress empowered the Secretary of HUD to improve the financial health of the HECM insurance program. Since the passage of the act, FHA has instituted multiple programmatic changes to improve the program's financial health, which reflects the desire to ensure long-term sustainability of HECM. The following section examines five of the programmatic changes, outlined in exhibit 2, to advance the financial sustainability of the HECM insurance program.

^a Economic value is an estimate, derived from econometric modeling, defined as the "cash available to the Fund, plus the net present value of all future cash inflows and outflows expected to result from the outstanding mortgages in the Fund" (National Affordable Housing Act of 1990, Pub. L. 101-625, 101st Congress, November 28, 1990).

^b Through these interaccount fund transfers, the amount becomes explicitly reserved for the gaining financing account and is no longer available to cover unexpected losses of the losing financing account.

^c These transfers lower the forward mortgages portfolio's economic value.

^d This transfer lowers the HECM portfolio's economic value.

Exhibit 2

Programmatic Changes and Refinements to the HECM Insurance Program

Year Initiated	HECM Insurance Program Modification	Purpose	Sources
2011	Adjustable-Rate Mortgage Interest Rate Adjustment Cap	Consumer protection for the borrower of an annual adjustable-rate HECM	HECM Protocol, Section 5.D.4.f
2013	First-Year Initial Loan Disbursement Limits	Mitigates increased risks of default for borrowers who took the maxi- mum initial draw in meeting their property tax, insurance, and mainte- nance costs	ML 13-27 (FHA, 2013b)
2013	Restructuring of the HECM Premium Structure	Risk-based pricing to reflect the amount of the initial year loan disbursement	ML 10-34 (FHA, 2010b), ML 13-27 (FHA, 2013b), ML 14-21 (FHA, 2014e)
2013	Mandated Financial Assessment for Borrowers	Assurance that borrowers are financially capable of meeting their HECM loan obligations	ML 13-27 (FHA, 2013b), ML 13-28 (FHA, 2013c), ML 13-45 (FHA, 2013d), ML 14-21 (FHA, 2014d), ML 14-22 (FHA, 2014e), ML 15-09 (FHA, 2015c), ML 15-05 (FHA, 2015b])
2014	Single Lump-Sum Payment for Fixed-Rate HECMs	Conformance with lender preference to eliminate single lump-sum payment option for adjustable-rate HECMs	ML 14-10 (FHA, 2014b), ML 14-11 (FHA, 2014c)
2015	Deferral of Due and Payable Status for Certain Eligible Nonborrowing Spouses	Provision to eligible nonborrowing spouses of option to retain the property with payment for HECM's unpaid principal balance or 95% of appraised value	ML 15-03 (FHA, 2015a), ML 15-05 (FHA, 2015b)

HECM = Home Equity Conversion Mortgage. ML = Mortgagee Letter.

Note: "Sources" refer to the documents with HECM insurance program modifications, such as Mortgagee Letters and HECM Protocols.

Adjustable-Rate Mortgage Interest Rate Adjustment Cap

Lenders have long established the precedent of establishing interest rate limits on adjustable-rate mortgages. Reverse mortgages are no exception. Proprietary reverse mortgages often have interest rate caps that vary from product to product (HUD, 2011). These caps have the purpose of protecting borrowers from large interest rate swings. For HECMs, FHA imposed annual and lifetime interest rate caps on its annual adjustable loans to limit interest rate increases in rapidly rising interest rate environments. The caps help protect remaining borrower equity in the home to the benefit of the borrower and also limit the growth of the loan balance that helps protect the insurance fund.

No mandated cap previously existed, other than the industry convention of a voluntary 10 percent lifetime limit on interest rate increases. FHA decided to go further with the development of a 2-percent annual cap and a 5-percent lifetime cap, commonly referred to as the 2/5 cap structure. The 2/5 cap structure on annual adjustable HECMs places a ceiling on the maximum amount lenders may add to the initial interest rate on adjustable-rate HECM loans (HUD, 2011). Each HECM with an interest rate that adjusts monthly is subject to a lifetime cap determined by the lender at loan origination (Ginnie Mae, 2015a). The cap structure affects how much borrowers pay on their loan balance. It also affects the growth of the principal limit. A higher rate means a lower principal limit, which thereby reduces the amount the borrower can draw in accessing his or her housing wealth (HUD, 2011). The 2/5 cap on annual adjustable HECM loans protects borrowers from a certain magnitude of interest rate increases. Caps also conversely limit potential net interest margins for lenders and investors in HECM loans, threatening the participation of these actors in the program.

Mandated Financial Assessment for Borrowers

Rises in tax and hazard insurance defaults led FHA to establish a requirement for lenders to conduct a financial assessment for borrowers beginning in early 2014. The purpose of the financial assessment is to require lenders to assess potential borrowers in terms of financial capacity and future compliance with HECM provisions (FHA, 2013b). In particular, the financial assessment mandates certain components in evaluating a borrower's ability and willingness to meet financial obligations and comply with HECM requirements (FHA, 2013c).

The financial assessment provides underwriting guidance and documentation requirements for lenders in the evaluation of prospective borrowers seeking purchase and refinance HECM loans. The financial assessment also stipulates the performance of credit reviews with cashflow and asset analysis, the evaluation of extenuating circumstances and compensating factors, and the assurance that the prospective borrower has made proper payment of property tax and insurance in determining eligibility for the HECM program (FHA, 2013c). Together, the components of the financial assessment seek to advance fiscal soundness in the HECM insurance program by ensuring borrowers are financially capable of meeting their HECM loan obligations that protect the value of the lien.

Policies To Restrict First-Year Draws and Fixed-Rate HECMs to Single Draw

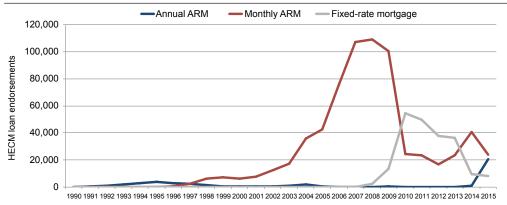
The aftermath of the Great Recession underscored the risks of borrowers' behavior in HECM defaults. In particular, a key lesson from experience was the nature of borrowers' HECM draws. In 2010, 75 percent of borrowers opted for the full draw at closing versus 43 percent in 2008 (CFPB, 2012). Higher default rates became evident for those who opted to take the maximum initial draw at the time of closing their HECM loan. Borrowers' decisions to take higher draws raised the risk of default, especially in terms of delinquency on future property tax, hazard insurance, and other maintenance costs.

Borrowers increasingly had immediate financial needs in paying off high levels of existing debt. Often borrowers used HECM principal payments as a crisis management tool to draw the full amount of their loan to meet short-term financial needs. With no cash set-asides, future tax, insurance, and property maintenance payments often went unanswered. Constrained finances ultimately impaired the ability of the borrowers to age in place as their homes entered into tax delinquency or became uninhabitable.

Lender preferences also reinforced the trend toward large initial draws on fixed-rate HECMs, as illustrated in exhibit 3. Conventional lending practices favored these loans, causing the share of

Exhibit 3





ARM = adjustable-rate mortgage. HECM = Home Equity Conversion Mortgage. Sources: HUD (2015a, 2015b)

fixed-rate HECMs to grow as lenders promoted large initial disbursements to increase their interest rate margin and ease sale for securitization. Furthermore, this practice presented a systemic risk, because lenders were required to effectively manage interest rate risk by providing borrowers with the ability to draw fixed-rate funds at unknown amounts on future dates (Ginnie Mae, 2014b).

In late 2013, FHA instituted restrictions on lump-sum draws in the borrower's first year of the HECM loan. These restrictions capped the amount drawn, at either the lesser of 60 percent of the principal limit or the sum of mandatory obligations plus 10 percent of the principal limit, during the first 12 months subsequent to loan closing (FHA, 2013b). This policy modification has facilitated changes toward financial sustainability for the HECM insurance program. It has contributed to a predominant shift to adjustable-rate mortgages, with borrowers electing to receive payments over time using the line of credit or modified tenure or term payment options compared with fixed-rate HECMs in which borrowers draw down all available funds at the time of loan closing. Although causing a reduction in HECM demand, the change was made to ensure the financial future of borrowers could better sustain HECM obligations and reduce payouts of insurance claims from the MMI Fund. As a result, HECM insurance program data indicate reduced first-year draws in fiscal year (FY) 2014 and FY 2015 loan disbursement patterns (HUD, 2015a).

Lenders offered options encouraging borrowers to take the 60 percent of the principal limit during the first 12 months of the initial disbursement and then shortly thereafter to draw the remaining 40 percent from the HECM loan regardless of borrowers' needs. This practice, delaying 40 percent of the draw by only 12 months, ran counter to FHA's objective of reducing large, upfront draws (FHA, 2014b). FHA has sought to address this issue through restrictions on lump-sum draws for adjustablerate HECM loans and restructured mortgage insurance premium (MIP) risk pricing (FHA, 2014c).

Following the 2013 restrictions on lump-sum draws and the shift toward managed initial loan disbursements, lending options permitting the borrower to take future draws at fixed interest rates became a concern affecting the financial sustainability of both the FHA HECM insurance program

and Ginnie Mae HMBS program. Given the difficulties that lenders, issuers, and investors may encounter in managing interest rate risk with future draws for fixed-rate HECMs, Ginnie Mae initiated the restriction by prohibiting the securitization of these loans in its HMBS pools (Ginnie Mae, 2014a, 2014b). Following Ginnie Mae's decision, FHA restricted provision of insurance on fixed-rate HECMs to single disbursement, lump-sum cash draws as the sole draw mechanism for these borrowers to choose at the closing of the loan. FHA's insurance restriction on fixed-rate HECMs with future payments also eliminated the single-disbursement, lump-sum-payment option for adjustable-rate HECM loans (FHA, 2014c). As a consequence, such changes have attracted borrowers with higher mandatory obligations to use the fixed-rate HECM loan option in seeking a single, full draw in meeting their larger financial needs.

Modified Mortgage Insurance Premium Structure

MIP is an essential component of the financial sustainability of the HECM insurance program. Borrowers' MIP payments fund the program and constitute the immediate fiscal resources that the MMI Fund uses in paying out insurance claims to lenders. The MIP structure for HECM loans originally provided an initial MIP at 2 percent of the maximum claim amount (MCA) and 0.5 percent of MCA for the monthly MIP. Such payments are accrued and paid by the borrower when HECM matures (FHA, 2010a). Following the restructuring of the HECM Saver and HECM Standard products, FHA sought risk-based pricing, depending on the borrower's initial disbursement as illustrated in exhibit 4.

The new premium structure has given the borrower a financial incentive to draw less than 60 percent of the principal limit on his or her HECM loan (HUD, 2015a). As such, borrowers with high mandatory obligations compensate FHA for the added risk that they impose on the MMI Fund for their high first-year draw through a higher upfront MIP. Thus, the MIP restructuring has further minimized default risk by incentivizing borrowers to make lesser draws while compensating the MMI Fund for the risk should borrowers withdraw more than 60 percent of the principal limit.

Exhibit 4

HECM MIP Structure

Initial Disbursement at Closing and During the First 12-Month Disbursement Period	Initial MIP (%)	Annual MIP (%)
Amounts of 60% or less of the principal limit	0.50	1.25
Amounts greater than 60% of the principal limit	2.50	1.25

HECM = Home Equity Conversion Mortgage. MIP = mortgage insurance premium. Note: MIP cost is calculated from the maximum claim amount.

Source: FHA (2014e)

Affordable Financing and the HMBS Program

For senior homeowners to effectively access their housing wealth, affordable financing is a necessity. Without affordable financing, HECM is constrained in meeting the needs of the elderly as an alternative way to access the financial assets in their homes. The financial sustainability of the HECM program depends on cost-effective access to financing for senior borrowers. The

corresponding HMBS program facilitates access to affordable housing finance for these homeowners. Through the HMBS program, Ginnie Mae furthers the financial sustainability of HECM as senior homeowners seek the option to continue living in their home while affordably accessing their equity without making repayments.

When Ginnie Mae created the HMBS program in 2007, a limited secondary market for reverse mortgages existed. (Ginnie Mae, 2007) Only a handful of private-label securitizations of reverse mortgage cashflows had occurred and would soon be bludgeoned by the Great Recession. 13 Furthermore liquidity for FHA-insured reverse mortgages was not met through securitization. Instead, whole-loan purchases by investors in HECM loans attempted to sustain lenders with access to investment from capital markets. Yet, since the inception of the HECM insurance program, Fannie Mae has made most purchases through on-book holdings of FHA-insured reverse mortgages. 14 With the GSEs not securitizing reverse mortgages, Ginnie Mae met a unique challenge by advancing financial sustainability for HECM loans through the pioneering creation of HMBS and the resulting development of a broad secondary mortgage market for HECM loans.

HMBS was the first nonprivate HECM securitization, which furthered the development of a robust secondary market for HECM loans (Agbamu, 2010). The benefits of this developed secondary market were clear because it served two key purposes in facilitating growth for HECM loans through increased investment and expanded access to affordable financing for borrowers and lenders through additional capital inflows into securitized pools. With Ginnie Mae and its explicit full-faith and credit guarantee from the U.S. government on the timely payment of principal and interest, HMBS stimulated development of a strong secondary reverse mortgage market. HECM securitization expanded investment from global capital markets into securitized HECM loans.

The resulting liquidity helped diminish the costs of HECM loans for lenders accessing capital and helped provide affordable financing to senior homeowners. Significant obstacles and risks had to be overcome in the design and servicing of the HMBS program. These obstacles were resolved through several innovations in reverse mortgage securitization that would help the program achieve its primary objective in facilitating aging in place with enabled access to affordable financing for many senior homeowners.

The Unconventional in Reverse Mortgage Securitization

Creating a new and atypical financial product with broad investor appeal was viewed as a daunting, if not an impossible, task to achieve. HMBS needed to incorporate several innovations to

¹³ In August 1999, Lehman Brothers Holdings Inc. created the first securitized reverse mortgage transaction SASCO 1999-RM1 (Zhai, 2000). Proprietary reverse mortgages had no federal insurance and required structuring in classes to mitigate nonrepayment risks (Szymanoski, Enriquez, and DiVenti, 2007). Until its demise, Lehman Brothers would securitize five total proprietary reverse mortgages in the Structured Asset Securities Corporation (SASCO) series. Bank of America's Mortgage Equity Conversion Asset Trust Corporation securitized the first HECM loans through three securitizations in 2006 and three subsequent securitizations in 2007 (Herzog, 2007). In addition, Deutsche Bank USA and RBS Greenwich Capital Markets Inc. also issued a series of HECM securitizations from 2006 to 2007 (CFPB, 2012).

¹⁴ According to quarterly financial disclosures, Fannie Mae's purchase share of HECM issuance dropped from 90 percent from 2008 to the first quarter of 2009 to less than 1 percent in the third quarter of 2010 (SEC, 2008–2010).

overcome challenges, build confidence, and meet—if not exceed—investors' expectations. Such dispiriting challenges would present significant obstacles. The obstacles would form tangible barriers that had the potential to limit HMBS implementation.

For HMBS to be effective, the program needed to assure investors of the quality and safety of the new and distinct security. Investor assurance presented a challenge because HECM loans and reverse mortgage securitization had the opposite collateral and credit issues compared with the standard forward mortgages and counterpart securities (Zhai, 2000). Thus, simple adaptation to the forward mortgage-backed securities (MBS) design with the underlying HECM loan collateral posed several challenges. Navigating through such difficulties proved essential to achieving success for the HMBS program in advancing HECM's financial sustainability.

The different nature of the underlying HECM collateral for HMBS presented issues in terms of time horizon, cashflow, and servicing. To resolve the issues, the HMBS structure and protocol had to conform to the underlying collateral's cashflow and navigate around the challenges the underlying HECM loans presented. The challenges—albeit significant—presented opportunities to innovate in the design of HMBS and the optimization of program protocol for ease of investment and servicing.

The open-ended maturity of the HECM loan posed the "most critical cashflow risk factor [...] arising from interest rate and property value uncertainties" (Szymanoski, Enriquez, and DiVenti, 2007: 14). HECM's negative amortization structure meant a growing loan balance would become due and payable at the unscheduled event of the borrower's death, move, default, or prepayment. Should the borrower live longer than the actuarial tables, then the growing principal with accruing interest payments presented risks to issuer solvency, especially in terms of pushing against the ceiling imposed by the MCA. In these instances, issuers and their subservicers lost incentive in continuing to administer HMBS pools. Such *crossover risk*¹⁵ posed a substantial barrier to growing issuer involvement in the program.

The cashflow of the HECM structure presented another challenge to HMBS securitization. Although the traditional forward MBS had a single cashflow from borrower to investors, HMBS had two cashflows (Szymanoski, Enriquez, and DiVenti, 2007): (1) borrowers received a cashflow each time they withdrew on their home equity, and (2) investors received a cashflow each time they received interest. The HMBS dual cashflow required funding each time the borrower drew cash from his or her housing wealth. The requirement for additional draws posed a significant barrier because investors were making a funding commitment far greater than their initial investment compared with investing in forward MBS. Further reliance on secondary market actors, whether investors or issuers, would add additional pressures in having the needed capital reserves to sustain longstanding servicing of securitized HECM loan pools (Ginnie Mae, 2011c). Such a commitment required significant foresight if not clairvoyance on these actors' parts. As a result, cashflow was a significant constraint in terms of attracting investment and servicing and also in terms of the fundamental design of HMBS (Ginnie Mae, 2011d).

¹⁵ Crossover risk occurs when the outstanding balance exceeds the home's value before the loan settles. For HECM loans, this crossover risk stems from a confluence of factors related to interest rates, house prices, and mortality (Wang, Huang, and Miao, n.d.).

The pooling and administration of the untested HMBS had to achieve operational excellence and encourage issuers and subservicers to work with this distinct and fledgling security. Servicing HMBS required long-term accounting from issuers and subservicers. The aforementioned negative amortization meant issuers had to manage growing HMBS pools in terms of repayment of principal, accrued interest payments, and fees. As a consequence, HMBS issuers and their subservicers would not administer the diminishing principal balances and monthly interest rate payments to investors as had been done traditionally with forward MBS. Rather, HMBS issuers would have to adapt to growing principal balances, accruing interest, and the payout of FHA MIPs and Ginnie Mae guaranty fees. In addition, issuers had to develop new mechanisms in determining when HMBS became due and payable, a novelty given the unscheduled maturity inherent to HECM loans.¹⁶

Strategic management of the nature of the HECM loan in terms of time horizon, cashflow, and servicing helped position the HMBS program for success. The rationale for the HMBS loan was compelling, especially in terms of the much-needed liquidity the product would provide in a new secondary market, bolstered by the full-faith and credit guarantee of Ginnie Mae and FHA insurance. The HMBS program would provide wide-scale securitization of HECM loans, serving a unique purpose in the provision of much-needed liquidity to the secondary reverse mortgage market. The outlined areas of difficulty, however, had the potential to avert the program's success. The resulting HMBS would certainly have a new and different cashflow structure if securitized at scale. It would also further diversify the fixed-income, MBS investment space. Innovations in the design and administration of HMBS, however, would largely determine the program's success in promoting financial sustainability in terms of affordable financing for HECM.

Innovations in the HMBS Program

HMBS required several innovations to overcome the aforementioned challenges inherent to the nature of the HECM loan. Programmatic innovations in securitization invigorated efforts to deepen liquidity and promote the development of a secondary reverse mortgage market. Such breakthroughs, outlined in exhibit 5, stimulated both issuer and investor participation in securitizing, servicing, and investing in HMBS. These changes consequently helped ensure that the HMBS program achieved success in facilitating affordable financing for senior homeowners deciding to liquidate their housing wealth and age in place.

The full-faith and credit guarantee that the U.S. government provided through Ginnie Mae was a promising start in developing the HMBS program. The guarantee, combined with FHA's insurance on the underlying HECM collateral, helped leverage HMBS in terms of investor protection related to issuer and credit risks. In the event of borrower and issuer default, the Ginnie Mae guarantee ensured investors would still receive their principal investment and also their accrued interest-rate revenues. The guarantee, combined with securitization, would deepen investment of global capital into HECM loans. Amplified capital inflows into HMBS provided increased liquidity into the HECM program, enabling lenders to access lower-cost financing and pass affordability along to the borrower in the form of lower interest rates. From the outset, the guarantee and insurance would

¹⁶ Maturity is triggered by the borrower's death, move-out by the borrower from the collateralized principal residence, or prepayment in the instances of a borrower's opting voluntarily to repay his or her outstanding HECM loan.

Exhibit 5

HMBS Innovations in Promoting Sustainable Financing for HECM

Innovation	Purpose	Effect
Securitization of HECM loans through HMBS	Channels investment into purchase of securitized HECM loan pools with unique cashflow structures	Reduces borrowing costs for lenders and promotes affordable financing for borrowers
Full-faith and credit guarantee by U.S. government on HMBS by Ginnie Mae and insurance for un- derlying HECM collateral by FHA	Ensures investors receive timely principal and interest payments from underlying HECM collateral	 Protects investors on issuer (Ginnie Mae) and creditor (FHA) risk Encourages investment of global capital into HMBS products
Securitization of HMBS participations ^a over HECM whole loans	Securitizes borrowers' draws instead of MCA on underlying HECM collateral	Provides increased liquidity and reduces future draw risk for external funding with components of HECM loans pooled into multiple securities
Mandatory repurchase event at 98% of MCA	As a definitive timeline event, triggers payout to investors through assignment of active loan to FHA	Results in issuers repurchasing participations related to HECM loan after it has reached 98% of MCA
Multiclass HREMIC structures	Customizes HECM collateral in classes based on principal balances, interest rates	Expands liquidity through customizable structures catered to investor preferences

FHA = Federal Housing Administration. HECM = Home Equity Conversion Mortgage. HMBS = HECM mortgage-backed securities. HREMIC = HMBS real estate mortgage investment conduit. MCA = maximum claim amount.

strengthen investors' confidence in the event their capital diminished from reduced principal and interest rate payments due to borrowers' inability to meet loan obligations or issuers' mishap. Such preconditions for the HMBS program would provide a needed foundation for a well-designed HMBS with proper securitization techniques to succeed.

Through the HMBS program, Ginnie Mae pioneered a new approach to reverse mortgage securitization, which differed from the conventional approach in which investment banks purchased privatelabel whole loan reverse mortgages from lenders for pooling and securitization. In the Ginnie Mae HMBS securitization model, investors were responsible for funding future draws in the resulting securities (CFPB, 2012). As such, proprietary reverse mortgage securities had a funding account embedded in their structures specifically drawn on when borrowers obtained advances on their home equity. With the Ginnie Mae approach, investors would purchase securitized components of HECM loans and issuers advanced funds to future draws for borrowers. Future draws would be securitized and pooled by issuers for future sale and additional investment. The use of HECM loan components for securitization would be a substantive design breakthrough that streamlined HMBS in terms of administration for issuer servicing and specificity in investor decisionmaking.

The HMBS structure fundamentally needed to incorporate flexibility and ensure greater certainty amidst a HECM loan with several daunting, if not unwelcoming, challenges. As opposed to securitizing whole HECM loans, the Ginnie Mae approach targeted HECM loan components. Issuers

^a Participations generally consist of advances made to borrowers, monthly insurance premiums paid to FHA, guaranty fees paid to Ginnie Mae, servicing fees, and accrued interest (Ginnie Mae, 2015a).

securitized individual borrower draws, termed participations in the HMBS program.¹⁷ Through participations, only part of the HECM loan was securitized. Because of this technique, issuers were able to pool components of whole HECM loans. As a result, HMBS pools had a "one-to-many relationship" with one HECM loan having many participations in various HECM-backed securities (Ginnie Mae, 2015a). Participations included accrued interest, servicing fees, FHA's MIPs, and Ginnie Mae's guaranty fee as securitized participations (Ginnie Mae, 2015a). Issuers pooled participations among those with similar characteristics, such as interest rates (fixed versus monthly and annual adjustable, and so on). Such pooling with units beneath the scale of HECM whole loans gave issuers and investors the advantage of additional specificity in the securitization process and investment decisionmaking.

The participations model had numerous benefits, including targeted investment and pooling specificity. Should the borrower make additional draws on the same HECM loan, termed "tails" in the industry, then the resulting draw would be eligible for securitization as a new participation to be placed into a new pool of cohorts (Katz and Birdsell, 2014). The securitization of tails as separate participation components was critical to the success of the HMBS program. In this respect, it gave HMBS issuers flexibility and adjustability in optimizing pool structures with added granularity in servicing. For example, in FY 2015, Ginnie Mae securitized 2,847,842 participations with an outstanding principal balance of \$8.714 billion. Assuming all participations are the same, ¹⁸ the average size of participations accordingly was small, calculated in this case at \$3,367.96. 19 Securitizing smaller components of HECM loans with greater differentiation enhanced liquidity²⁰ to the secondary mortgage market, which helped further the financial sustainability of the HECM. It also supported issuers in funding cash advances made to HECM borrowers.

The use of participations in the HMBS program was innovative because it provided a more specific HMBS subcomponent unit for ease in pooling, servicing, and investing. Participations also helped prevent investors from funding future draws when borrowers made more than an initial draw on their loan. Instead, issuers funded additional cash draws executed by borrowers in the HMBS program. Through the participations model, issuers were better supported in meeting the HMBS funding requirement. The creation of new and subsequent participations enabled issuers to securitize cashflows separately. Given that subsequent participations were often smaller payments, it helped reduce issuers' financial burden by advancing funds for subsequent draws. The participations model gave issuers and investors additional investment certainty and control in the HMBS securitization process. As a result, participations helped further the financial sustainability of HECM through increased liquidity and the resulting lower-cost financing for senior homeowners.

In advancing the financial sustainability of FHA-insured reverse mortgages, the actors involved in the securitization process of participations were essential. The issuers and subservicers

¹⁷ Participations generally consist of advances made to borrowers, monthly insurance premiums paid to FHA, guaranty fees paid to Ginnie Mae, servicing fees, and accrued interest (Ginnie Mae, 2015a).

¹⁸ This calculation is used to gauge average participation size. It should be rightly noted, however, that all participations are

¹⁹ In FY 2014, Ginnie Mae securitized 2,587,323 participations, with an outstanding principal balance of \$7.121 billion. The average participation amount would be an even smaller \$2,500.49.

²⁰ The customization of securitized HECM loans through participations enhances liquidity to this secondary mortgage market because these smaller units are pooled compared with entire loans.

administratively were critical to the success of the HMBS program beginning from the pooling of participations into HMBS to paying out interest payments and fees to investors, FHA, and Ginnie Mae. From the time the HECM loan was dispersed through the execution of additional draws until the time when the HECM loan became due and payable, the success of issuers and subservicers not only affected the effectiveness of the HMBS program but also determined the sustainability of FHA's HECM insurance program and influenced Ginnie Mae's financial health.²¹

As such, issuers and subservicers had a range of duties required to successfully service HMBS, some distinct, if not different, from those of MBS. Of course, in a way that was similar to how they monitored MBS, they monitored borrower compliance and managed default, but they also monitored the atypical events that triggered maturity for HMBS, the so-called morbidity, mobility, and prepayment events when payments became due for borrowers and investors received their principal and interest payments. The burden on issuers and subservicers is especially important as the unscheduled payment timeline of HECM loans determines when issuers and investors receive payments and reimbursement on their advances and investments, respectively.

Because borrowers did not make monthly payments on principal and interest, issuers and subservicers were required to calculate and account for the state of their HMBS pools monthly. Although the calculations were long term, given the negatively amortizing nature of HMBS, issuers have to closely monitor and manage accruals and be ready should HECM loans become due and payable. Issuers also were required to simultaneously fund out-of-pocket draws to ensure borrowers received their liquidated housing wealth payments while passing through monthly MIPs and guaranty fees to FHA and Ginnie Mae, respectively (Ginnie Mae, 2015a). As a consequence, each of these payments required effective accounting. Errors in tabulations risked issuer default through portfolio mismanagement, which, consequently, threatened the fiscal soundness of the HMBS program and also Ginnie Mae. Thus, issuers were required to be diligent in their accounting for their outstanding HMBS pools and related participations. For oversight, accounting developments were reported to Ginnie Mae for monitoring and risk assessment (Ginnie Mae, 2011e).

As evidenced, issuers and subservicers were crucial to the success of the HMBS program. Their role did not stop here, however; it extended beyond pooling and the accounting for HMBS pools. Perhaps most important in the life of a HECM-backed security, when a HECM loan became due and payable, the issuer was to repurchase all participations related to that loan. Buyouts of participations from the HMBS pools ensured investors received their principal and interest payments; however, it involved financial uncertainty from the issuer's perspective. As issuers advanced funds to buy out the participations, they were unsure if they would be adequately reimbursed in a timely fashion. Such requirements for issuers to fund borrower advances and buy out participations explained why Ginnie Mae mandated higher net worth requirements for HMBS issuers compared with single-family (SF) counterparts²² (Ginnie Mae, 2011a). Being an HMBS issuer is cash intensive. Because of servicing requirements, for issuers to be financially sustainable they must have had enough

²¹ Should Ginnie Mae determine an issuer default has occurred, it must take over the portfolio from the defaulted issuer unless another issuer acquires the defaulted pools. This takeover can result in significant expenditure of financial resources.

²² For the HMBS program, an issuer must have a minimum net worth of \$5,000,000 compared with \$2,500,000 for SF MBS issuers (Ginnie Mae, 2011a, 2010, 2008).

capital to fund borrower advances and execute buyouts. They also must be reimbursed in the event of borrower default or crossover risk. The assignment option adapted from the HECM insurance program to the HMBS program provides issuers and investors added assurance.

The assignment option feature was not found in conventional reverse mortgages (Szymanoski, Enriquez, and DiVenti, 2007). With accruals on HECM loans stopping only when maturity and prepayment occurred, lenders typically suffered losses, without insurance, in the event of borrower nonrepayment. Should the HECM loan's debt grow to a point at which it exceeded the value of the property, crossover risk—inherent to these loans—necessitated the option for lenders to assign the loan to FHA when the total loan balance was equal to or greater than 98 percent of the MCA. When this occurred, lenders assigned the loan to FHA, whereby HUD assumed all responsibilities in servicing the loan going forward. After the loan was assigned to FHA, lenders received an insurance claim equal to the loan balance up to the MCA (Szymanoski, Enriquez, and DiVenti, 2007). Such assignment was important as the HECM loan actually became terminated—due to the borrower's death, move out, default, or refinancing—after assignment to FHA.

The MCA assignment, at or greater than 98 percent of the HECM MCA, was vitally important to the HMBS program.²³ Enabled by the sale of loans by primary market lenders, Ginnie Mae mandated HMBS issuers to assign these loans to FHA. After the assignment was triggered, the "Mandatory Purchase Event" required issuers to purchase all participations from the nearly full MCA HECM loan (Ginnie Mae, 2011b). If loans became successfully assigned to FHA, the issuers received mortgage insurance claim payments, providing reimbursement on their advancement of funds to liquidate the participations from HMBS pools (Ginnie Mae, 2011b). In addition, the Mandatory Purchase Event also provided HMBS investors with enhanced payment predictability because, from their perspective, the loan had terminated, given its payout funded by the issuer (Ginnie Mae, 2015a). The MCA assignment rule also ensured issuers only pool participations from insured FHA loans (Ginnie Mae, 2015a).

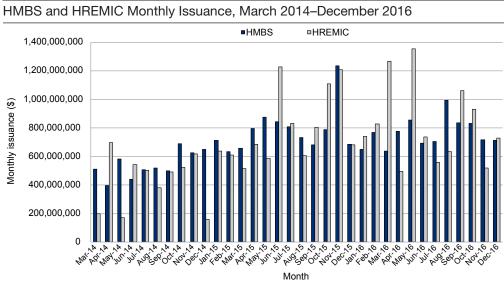
Assignment was not a cure-all for issuer concerns about cost recovery for funds advanced to purchase participations from the HMBS pools. If the HECM loan was ineligible for assignment to FHA, then the issuer did not receive compensation from FHA. Being unassignable due to borrower default, issuers had to either hold onto the loan until maturity or sell the loan to another FHA lender-servicer (CFPB, 2012). In such instances, the issuer was able to recover some of its investment through the foreclosure process and then would file an insurance claim with the HECM insurance program for up to the MCA of the remaining debt. With crossover risk growing as the issuer held the loan, issuers were in a difficult situation in continuing to service loans, especially because the time spent servicing participations only increased their costs. As a result, the issuers bore these risks to encourage continued investment in the HMBS program and continued liquidity in this secondary market.

²³ The payment scenarios for HECM were publicly reported in late 2007 to have a 90-percent frequency of borrowers paying the balance of their mortgage balance through home sale, refinancing, or other sources of funds: 9 percent of HECM loans being successfully assigned to FHA and 100 percent of outstanding accrued balance being paid off and 1 percent of HECM loans having FHA issuing insurance claims when proceeds from home sales are less than the funded balance (Burch, 2007).

Another innovative source of liquidity into the secondary HECM market came from HMBS eligibility to be resecuritized into real estate mortgage investment conduits (REMICs). Since 2008, Ginnie Mae allowed HMBS to serve as collateral in REMICs. HMBS REMICs (HREMICs) were HMBS repackaged into multiclass structures with similar groupings, whether principal balances, interest rates, average lives, prepayment characteristics, or final maturities. HREMICs were important because they provided further liquidity to the secondary reverse mortgage market by allowing various investors with different investment horizons, risk-reward preferences, and asset-liability requirements to invest in financial products uniquely suited for their portfolio needs.

As illustrated in exhibit 6, the HREMIC issuance contributed significantly in channeling capital into HECM, even exceeding in some months regular HMBS issuance. The HREMICs components were largely grouped into passthrough and interest-only structures with sequential²⁴ structures being historically employed to a lesser extent. Classes included both fixed-interest rate and adjustable-interest rate floater structures. Through strategic groupings of these classes, HREMICs gave investors the ability to target their investments into substituent²⁵ structures. Investors leveraged their investments with the purpose of exceeding returns in components rather than in broader and less-specified HMBS pools of participations. The customization of HMBS into HREMIC structures underscored Ginnie Mae's innovative contribution to the HMBS program in furthering investor specificity with increased capital flow into HECM. The resulting increased liquidity from HREMICs allowed senior homeowners to access lower-cost financing when accessing equity in their homes through HECM.

Exhibit 6



HMBS = HECM (Home Equity Conversion Mortgage) mortgage-backed securities. HREMIC = HMBS real estate mortgage investment conduits. Source: Ginnie Mae (2017)

²⁴ The HSEQ breaks up different payment streams into levels of seniority and subordination, which enables investors to tailor their HREMIC investment to assorted time horizons and repayment levels.

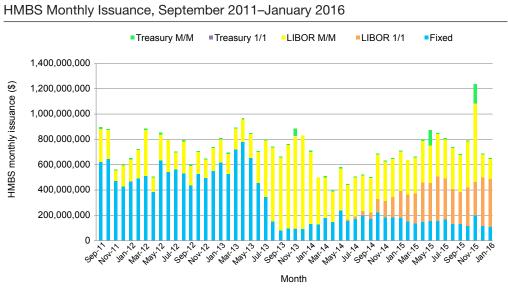
²⁵ The substituent groupings are classes of specified, alike collateral pooled into HREMIC products.

Assessing Future Challenges for the HMBS Program

The HMBS program achieved much success in securitizing HECM loans and providing liquidity to the market of reverse mortgage products. Exhibit 7 shows that hundreds of millions of dollars of HECM loans were securitized in HMBS every month. The success was a testament to Ginnie Mae's ability to resolve numerous issues through several programmatic innovations to HMBS. The result was the development of a new secondary reverse mortgage market worth close to \$64 billion that did not exist less than a decade ago. Despite accomplishments in facilitating access to affordable financing for many senior homeowners seeking to access their housing wealth, challenges persisted in ensuring that continued liquidity provided through HMBS to HECM existed.

The HMBS program posed disproportionate risk despite its small share of Ginnie Mae's overall MBS-guaranteed portfolio. Although the HMBS portfolio had experienced steady growth since its inception to comprise more than 333,000 loans, recent month-to-month growth and issuance has started to slow (Ginnie Mae, 2015b; Oliva, 2016). This concerning trend of slowing portfolio growth could be attributed to impending maturities for the HECM loan bulge, coming from the demand surge following the Great Recession, approaching the Mandatory Purchase Event threshold for assignment of loans to FHA. In FY 2015, HMBS buyouts approached close to \$2.75 billion, significantly higher than the voluntary, partial, and other payments in previous years (Ginnie Mae, 2015b; Oliva, 2016). HMBS participation liquidation rate concurrently reached its highest point in the program's history, registering close to 15.2 percent in August 2015 (Ginnie Mae, 2015b; Oliva, 2016). The figures may indicate possible headwinds, with forthcoming projections estimating a

Exhibit 7



1/1 = Annual Index. HMBS = HECM (Home Equity Conversion Mortgage) mortgage-backed securities. LIBOR = London Interbank Offered Rate. M/M = Monthly Index.

Source: Ginnie Mae (2016)

growth in Mandatory Purchase Events from 2016 to 2018. Such projections indicated the potential for \$32.6 billion in unpaid principal balance to be bought out by issuers from calendar years 2016 to 2020 (Ginnie Mae, 2015b; Oliva, 2016).

The slowdown in HMBS portfolio growth also reflected FHA's recent changes to the HECM insurance program to advance its financial soundness. In the institution of programmatic changes to promote HECM's long-term fiscal solvency in the MMI Fund, the trend toward increased modifications and refinements resulted in reduced borrower demand. For example, reverse mortgage industry analysts recently assessed the financial assessment requirement for prospective HECM borrowers to "certainly reduce loan volume for the foreseeable future" (New View Advisors, 2015: 1). As such, the transition to foster increased fiscal viability for the HECM insurance program may have reduced borrower demand. Such changes ultimately had the potential to hurt production. It is likely that the resulting reduced borrower demand places increased strain on issuers in incentivizing servicing for HMBS. Such stress on HMBS servicing risked fewer issuers in the secondary market and could have impeded investment in these securities. In the event the analysts' assessments come to fruition, liquidity to the securitized HECM market could be significantly reduced.

Regulatory uncertainty in the primary market has been a key risk to the stability of the HMBS program. As a consequence, policy uncertainty has contributed to HMBS issuers leaving the market. Multiple HMBS issuers specifically have exited due to declining incentives. 26 Many exiting issuers were market leaders who significantly invested in becoming successful at the unique terms of HMBS servicing and embraced their cash-intensive role in advancing funds for borrower draws and participation buyouts. Yet, issuers have been overburdened in executing their HMBS duties in an environment of uncertainty. Despite the surge in availability of HECM portfolios from exited issuers, however, they have been transferred successfully to other issuers. Such transfers highlighted the resilience of HMBS issuers in confronting such risks and continuing their essential role in contributing to the success of the HMBS program. Nonetheless, these trends also risked further concentration of the HMBS issuer base.

The concentration of HMBS issuers has long stemmed from the product's being niche, notably so compared with forward MBS. Capital requirements to fund the Mandatory Purchase Event buyouts, however, have contributed to limiting increased issuer participation. The issuer concentration, combined with reduced demand, explains why the HMBS issuer market had few new entrants. Exhibit 8 shows that only 5 of the 17 total HMBS issuers made up close to 80 percent of the total monthly issuance in 2015 compared with 28 of the 328 total SF MBS issuers with the same 80 percent of similar market share. In addition, only 9 HMBS issuers were active in securitizing new originations. These numbers show a marked improvement since 2012, when only 5 issuers were actively securitizing new participations (CFPB, 2012); however, such high concentration was cause for concern.

Should the two aforementioned trends of increasing loans reaching the Mandatory Purchase Event and regulatory uncertainty continue, the overall financial sustainability of HECM could be

²⁶ The number of HMBS issuers buying loans and bundling securities shrank considerably with the departure of Wells Fargo & Company, Bank of America Corporation, and Financial Freedom in 2011 and MetLife, Inc., in 2012 (CFPB, 2012).

Exhibit 8

Ginnie Mae Single-Family MBS and HMBS Issuer Outstanding Issuance Market Share, December 2014–January 2016

Ginnie Mae Single-Family MBS Issuer	Market Share (%)	Ginnie Mae HMBS Issuer	Market Share (%)
Wells Fargo Bank, N.A.	26.59	Nationstar Mortgage, LLC	25.54
J.P. Morgan Chase Bank, N.A.	8.68	Reverse Mortgage Solutions, Inc.	15.29
Pennymac Loan Services, LLC	5.00	Urban Financial of America, LLC	12.93
Bank of America, N.A.	4.74	Wells Fargo Bank, N.A.	12.00
Nationstar Mortgage, LLC	3.97	American Advisors Group, Inc.	7.40
U.S. Bank, N.A.	3.91	Reverse Mortgage Funding, LLC	6.95
Freedom Mortgage Corporation	2.80	Live Well Financial, Inc.	4.12
Lakeview Loan Servicing, LLC	2.72	Bank of America, N.A.	3.47
Quicken Loans Inc.	2.61	Liberty Home Equity Solutions	3.45
Ocwen Loan Servicing, LLC	1.58	Generation Mortgage Company	2.97
USAA Federal Savings Bank	1.56	Finance of America Reverse, LLC	2.86
Carrington Mortgage Services	1.52	Onewest Bank, N.A.	1.07
PHH Mortgage Corporation	1.32	Sunwest Mortgage Company, Inc.	0.98
Branch Banking and Trust Company	1.27	Plaza Home Mortgage, Inc.	0.74
Pingora Loan Servicing, LLC	1.14	CIT Bank, N.A.	0.19
Ditech Financial, LLC	1.13	Silvergate Bank	0.04
Suntrust Mortgage, Inc.	1.12	Cherry Creek Mortgage Co., Inc.	0.02
Outstanding Issuance Average	\$1,470,657,789,781	Outstanding Issuance Average	\$63,279,623,283

HMBS = HECM (Home Equity Conversion Mortgage) mortgage-backed securities. MBS = mortgage-backed securities.

endangered.²⁷ The unsustainability could occur through additional HMBS issuer exits or—worse through homeowners' defaults. 28 The risk is especially relevant in the current post-recession paradigm in which "too big to fail" is an often-invoked concern.

New entrants of successful HMBS issuers could help reduce the high concentration. Yet, obstacles exist for both current and potential issuers that discourage entities from becoming HMBS issuers, aside from those already discussed. Exhibit 9 shows that, among the six issuers that operated in both the SF and HECM MBS space, only one is more specialized in the reverse portfolio compared with the SF portfolio. The concentration not only underscores the specialized nature of the HMBS environment, but it also illustrates the magnitude of incentives involved in participating in the SF versus HMBS issuer market.

²⁷ An additional overall trend is the increase in nonbank institutions as issuers. Issuer concentration in the HMBS program has also been accompanied by a similar trend mirrored in the overall MBS market. The increase in the share of nonbank institutions as Ginnie Mae issuers is relevant to HMBS as well. As a consequence, Ginnie Mae has instituted capital requirements for nondepository institutions, such as nonbanks and credit unions, requiring a total assets ratio of 6 percent or greater compared with 10 percent or greater of total assets for depository institutions, such as banks and thrifts (Ginnie Mae, 2011e).

²⁸ In the case of major issuer default, very few issuers would take on subservicing. Ginnie Mae master subservicers potentially would conduct such servicing.

Exhibit 9

Ginnie Mae Issuance by Unpaid Principal Balance for Issuers of HMBS and SF MBS, December 2014-January 2016

Ginnie Mae Issuer	HMBS (\$)	SF MBS (\$)
Nationstar Mortgage LLC	16,162,974,289	58,385,989,654
Wells Fargo Bank, N.A.	4,396,764,866	391,118,634,380
Live Well Financial, Inc.	2,181,471,638	23,132,714
Bank of America, N.A.	1,880,234,859	69,731,451,402
Plaza Home Mortgage, Inc.	116,857,788	6,996,301,929
Cherry Creek Mortgage Co., Inc.	14,183,564	226,714,629

HMBS = HECM (Home Equity Conversion Mortgage) mortgage-backed securities. MBS = mortgage-backed securities. SF = single

Why participate as a specialized HMBS issuer, especially when the likelihood of managing a bigger portfolio rests within the SF MBS? This quintessential question is one a prospective issuer may ask when deciding whether to join either market. The question emphasizes the fundamental dilemma in expanding the HMBS issuer base. Certainly the portfolio ranges of each market could influence a prospective issuer when comparing the \$1.47 trillion SF market with the \$63.3 billion HMBS market. Further, perhaps issuers would prefer to participate in a more certain SF regulatory environment than in HECM, with uncertain regulatory changes potentially on the horizon. Yet, an issuer may view specialization in HMBS as potentially more profitable for business, given the limited number of competitors. Despite the above conjectures, these observations highlight the need for increased confidence in the HMBS program among investors, issuers, subservicers, lenders, and borrowers alike.

To adapt the program to mitigate such risks, HMBS may require additional programmatic innovations. In addition to promoting greater certainty in the secondary market to potential primary market policy changes, further adaptations may require mitigating strain in the HMBS issuer base and continuing to fortify and further diversify investment into HECM.²⁹ Potential ways to consider strengthening the HMBS program regarding these challenges could include expanding the HMBS issuer base by incentivizing current SF issuers to successfully expand into HMBS. On the other hand, it could also involve redesigning the HMBS structure to more equitably fund borrower advances from sources other than issuers. A funding redesign could also reexamine the conventional securitization approach with prefunded cash accounts embedded in proprietary reverse mortgage products. Moreover, further streamlining FHA insurance payments could also limit risks posed by systemic issuer failure in the event of possible increases of 98 percent MCA assignments to FHA.

Advancing Financial Sustainability for HECM

The Great Recession underscored the importance of HECM as a last resort to support the continued lifestyles of senior homeowners. It also demonstrated the significance of the HECM insurance program in balancing its mission with the need to advance fiscal soundness and ensure the health of the MMI Fund.

²⁹ In a recent interview, FHA's Principal Deputy Assistant Secretary Ed Golding echoed further diversifying HMBS investment: "One area I would like to explore is whether we can expand the number of investors that finance reverse mortgages. It's not always a natural product to go into Ginnie Mae securities. Ginnie Mae has done a great job of providing financing and it will continue to do so, but it would be beneficial to have a diversified investor base" (Hicks, 2015: 1).

The programmatic changes made by FHA sought to promote sound lending practices and ensure the viability of the program. As a result, the HECM insurance program sought to reduce borrower reliance on loans as a crisis management tool and implemented program changes to limit borrower defaults. FHA's program modifications occurred specifically through restructured HECM loan products, resulting in encouraging smaller initial borrower draws, minimizing defaults due to negligence in the payment of tax and insurance fees on the property, and ensuring borrowers have the ability to meet loan obligations through the financial assessment. Reforms to the HECM insurance program seek to secure the ability of borrowers to age in place while advancing fiscal soundness for the MMI Fund.

At the same time, Ginnie Mae's HMBS program innovatively expanded and modernized access to affordable HECM financing for senior homeowners. Through several breakthroughs in HECM loan securitization, including but not limited to the participations model and resecuritization through the HREMIC, Ginnie Mae provided much needed liquidity through the facilitation of global capital into HECM. The changes resulted in the ability of senior borrowers to more affordably access their housing wealth with lower-cost financing on their HECM loans. Despite such remarkable progress in less than a decade, however, challenges remain in further strengthening the HMBS program and expanding issuer, subservicer, and investor participation. Strengthening the development of the nascent secondary mortgage market remains unaddressed by regulatory changes in the primary market. Only when these challenges are addressed can the HMBS program achieve further success in promoting the financial sustainability for HECM.

As the United States experiences an increase in life expectancy and population aging persists as a profound demographic trend for the country, HECM will continue to be an important source of funding for senior homeowners seeking to access their housing wealth and age in place.³⁰ HECM will continue to serve its essential role as a supplement to income for people of advanced age seeking alternative ways to maintain their standard of living through advancing the financial sustainability of the HECM insurance and HMBS programs.

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³⁰ Many senior Americans have lived for decades in the same house. In a national survey in 2011, nearly one-half of Americans ages 65 to 79 had remained in their homes for 20 years or more. More than three in five Americans age 80 or older had aged in place with their existing housing arrangement for at least 20 years (JCHS, 2014).

References

Agbamu, Atare E. 2010. "The Engineers of Reverse Mortgage Securitization," National Mortgage Professional Magazine 2 (3): 1–2.

Burch, Justin. 2007. HMBS Overview: Ginnie Mae's Program to Securitize Government Insured Home Equity Conversion Mortgages. Washington, DC: Ginnie Mae.

Centers for Disease Control and Prevention (CDC). 2013. Healthy Places Terminology. Atlanta: National Center for Environmental Health.

Congressional Budget Office (CBO). 2013. How FHA's Mutual Mortgage Insurance Fund Accounts for the Cost of Mortgage Guarantees. Washington, DC: Congressional Budget Office.

Consumer Finance Protection Bureau (CFPB). 2012. Report to Congress on Reverse Mortgages. Washington, DC: Consumer Finance Protection Bureau.

Federal Housing Administration (FHA). 2016. Actuarial Review of the Federal Housing Administration Mutual Mortgage Insurance Fund HECM and Non-HECM Loans for Fiscal Year 2016. Washington, DC: Federal Housing Administration.

- ——. 2015a. Actuarial Review of the Federal Housing Administration Mutual Mortgage Insurance Fund HECM and Non-HECM Loans for Fiscal Year 2015. Washington, DC: Federal Housing Administration.
- ——. 2015b. Mortgagee Letter 2015-03: Mortgagee Optional Election Assignment for Home Equity Conversion Mortgages (HECMs) With FHA Case Numbers Assigned Prior to August 4, 2014. Washington, DC: Federal Housing Administration.
- 2015c. Mortgagee Letter 2015-09: Home Equity Conversion Mortgage (HECM) Program: Life Expectancy Set-Aside Growth Rate and Clarification to Section 3.98 of the HECM Financial Assessment and Property Charge Guide. Washington, DC: Federal Housing Administration.
- —. 2014a. Actuarial Review of the Federal Housing Administration Mutual Mortgage Insurance Fund HECM and Non-HECM Loans for Fiscal Year 2014. Washington, DC: Federal Housing Administration.
- —. 2014b. Mortgagee Letter 2014-08: Prohibition on Pooling of HECM Loans That Provide for Future Draws at a Fixed Rate of Interest: HMBS Prospectus and MBS Guide Revisions. Washington, DC: Federal Housing Administration.
- 2014c. Mortgagee Letter 2014-10: Home Equity Conversion Mortgage (HECM) Program: Prohibition on Misleading or Deceptive Program Descriptions or Advertising and Prohibition on Restriction of Mortgagor's Freedom of Choice. Washington, DC: Federal Housing Administration.
- on Insurability of Fixed Interest Rate Products Under the HECM Program. Washington, DC: Federal Housing Administration.

. 2014e. Mortgagee Letter 2014-21: Revised Changes to the Home Equity Conversion Mortgage (HECM) Program Requirements. Washington, DC: Federal Housing Administration.
. 2014f. Mortgagee Letter 2014-22: Home Equity Conversion Mortgage (HECM) Financial Assessment and Property Charge Requirements. Washington, DC: Federal Housing Administration.
——. 2013a. Actuarial Review of the Federal Housing Administration Mutual Mortgage Insurance Fund HECM and Non-HECM Loans for Fiscal Year 2013. Washington, DC: Federal Housing Administration.
———. 2013b. Mortgagee Letter 2013-27: Changes to the Home Equity Conversion Mortgage Program Requirements. Washington, DC: Federal Housing Administration.
. 2013c. Mortgagee Letter 2013-28: Home Equity Conversion Mortgage (HECM) Financial Assessment and Property Charge Guide. Washington, DC: Federal Housing Administration.
2013d. Mortgagee Letter 2013-45: Delay in Effective Date for Home Equity Conversion Mort- gage (HECM) Financial Assessment Requirements and Funding Requirements for the Payment of Property Charges. Washington, DC: Federal Housing Administration.
——. 2012. Actuarial Review of the Federal Housing Administration Mutual Mortgage Insurance Fund HECM and Non-HECM Loans for Fiscal Year 2012. Washington, DC: Federal Housing Administration.
——. 2011. Actuarial Review of the Federal Housing Administration Mutual Mortgage Insurance Fund HECM and Non-HECM Loans for Fiscal Year 2011. Washington, DC: Federal Housing Administration.
——. 2010a. Actuarial Review of the Federal Housing Administration Mutual Mortgage Insurance Fund HECM and Non-HECM Loans for Fiscal Year 2010. Washington, DC: Federal Housing Administration.
. 2010b. Mortgagee Letter 2010-34: Home Equity Conversion Mortgage Program—Introducing HECM Saver: Mortgage Insurance Premiums and Principal Limit Factor Changes for HECM Standard. Washington, DC: Federal Housing Administration.
2009. Actuarial Review of the Federal Housing Administration Mutual Mortgage Insurance Fund HECM and Non-HECM Loans for Fiscal Year 2009. Washington, DC: Federal Housing Administration.
Ginnie Mae. 2017. "Monthly Issuance Reports." Washington, DC: Ginnie Mae.
. 2015b. HMBS Update: An Evolving Market. Washington, DC: Ginnie Mae.
———. 2014a. All Participant Memorandum 14-04: Pooling of HECM Loans That Provide Future Draws at a Fixed Rate of Interest (APM 14-04). Washington, DC: Ginnie Mae.

———. 2014b. All Participant Memorandum 14-08: Prohibition on Pooling of HECM Loans That Provide Future Draws at a Fixed Rate of Interest; HMBS Prospectus and MBS Guide Revisions (APM 14-08). Washington, DC: Ginnie Mae.
. 2011a. All Participant Memorandum 11-01: New Financial Requirements: Home Equity Conversion Mortgage-Backed Securities (HMBS) (APM 11-01). Washington, DC: Ginnie Mae.
. 2011b. All Participant Memorandum 11-03: HMBS Mandatory Purchase Events (APM 11-03). Washington, DC: Ginnie Mae.
. 2011c. All Participant Memorandum 11-06: Home Equity Conversion Mortgage-Backed Securities (HMBS): Changes to the Servicing Fee Margin (APM 11-06). Washington, DC: Ginnie Mae.
——. 2011d. All Participant Memorandum 11-10: Home Equity Conversion Mortgage (HECM) Mortgage-Backed Securities (HMBS): Changes to the Servicing Fee Margin (APM 11-10). Washington, DC: Ginnie Mae.
. 2011e. All Participant Memorandum 11-16: Revisions to Institution-Wide Capital Requirements (APM 11-16). Washington, DC: Ginnie Mae.
. 2010. All Participant Memorandum 10-02: Increased Net Worth Reminder (APM 10-02). Washington, DC: Ginnie Mae.
. 2008. All Participant Memorandum 08-17: Changes to the New Issuer Application and Ginnie Mae New Worth Requirements (APM 08-17). Washington, DC: Ginnie Mae.

Herzog, Thomas. 2007. Reverse Mortgages. Washington, DC: Federal Housing Administration.

Hicks, Darryl. 2015. "Edward Golding, HUD: New Principal DAS for Housing Discusses Priorities," Reverse Mortgage 8 (4): 7-8.

Joint Center for Housing Studies (JCHS). 2014. Housing America's Older Adults: Meeting the Needs of an Aging Population. Cambridge, MA: Joint Center for Housing Studies of Harvard University.

Katz, Rob, and Jeff Birdsell. 2014. "The Unique Secondary Lifecycle of the HECM Reverse Mortgage," Secondary Marketing Executive 28 (8): 1-5.

Moulton, Stephanie, Donald Haurin, and Wei Shi. 2014. An Analysis of Default Risk in the Home Equity Conversion Mortgage (HECM) Program. Columbus, OH: The Ohio State University.

New View Advisors. 2015. HMBS Issuance Strong in April 2015 but Challenges Loom. New York: New View Advisors LLC.

Oliva, Jason. 2016. "Ginnie Mae Plans To Enhance HMBS Program for Reverse Mortgage Lenders," Reverse Mortgage Daily, April 5, 2016.

Szymanoski, Edward J., James C. Enriquez, and Theresa R. DiVenti. 2007. "Home Equity Conversion Mortgage Terminations: Information To Enhance the Developing Secondary Market," Cityscape 9 (1): 5-45.

- U.S. Department of Housing and Urban Development (HUD). 2015a. Economic Analysis Statement, Federal Housing Administration (FHA): Strengthening the Home Equity Conversion Mortgage (HECM) Program (24 CFR Parts 30 and 206). Washington, DC: U.S. Department of Housing and Urban Development.
- 2015b. HUD/PD&R Analysis of HERMIT System Data. Washington, DC: U.S. Department of Housing and Urban Development.
- ——. 2013. Annual Report to Congress Regarding the Financial Status of the FHA Mutual Mortgage Insurance Fund Fiscal Year. Washington, DC: U.S. Department of Housing and Urban Development.
- —. 2011. 7610.0 HECM Protocol. Washington, DC: U.S. Departmental Housing and Urban Development.
- U.S. Securities and Exchange Commission (SEC). 2008–2010. Federal National Mortgage Association, Form 10-Q. Washington, DC: U.S. Securities and Exchange Commission.

Wang, Chou-Wen, Hong-Chih Huang, and Yuan-Chi Miao. n.d. Securitization of Crossover Risk in Reverse Mortgages. Taipei City, Taiwan: University of London.

Zhai, David. 2000. Reverse Mortgage Securitizations: Understanding and Gauging the Risks. Special Report. New York: Moody's Investors Service.