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# The unfulfilled promise of reverse mortgages: Can a better market improve retirement security?

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## STATEMENT OF INDEPENDENCE

The authors did not receive financial support from any firm or person for this article or from any firm or person with a financial or political interest in this article. Harris is the president of Cherrydale Strategies, an economic consulting firm engaged with REX Homes, a firm which helps broker the purchase and sale of homes, however he has not received any financial support for work related to reverse mortgages. Harris is also a research fellow with the Alliance for Lifetime Income, an organization supported by the annuity industry to advocate for research and information related to annuities, but he has not received any financial compensation or support of any kind for this role. None of the authors is currently an officer, director, or board member of any organization with a financial or political interest in this article. The authors are not currently an officer, director, or board member of any organization with a financial or political interest in this article.

## ABSTRACT

With the gradual disappearance of private-sector pensions and gradually increasing life expectancy, Americans must increasingly take responsibility for managing their own retirement. Many older households end their working years with limited financial resources, but have accumulated substantial equity in their homes—making home equity a potential source of retirement income. Reverse mortgages offer one avenue for accessing this equity, offering homeowners the ability to borrow against their home and defer payment until they exit the property. Yet, while this strategy shows promise in theory for select retirees, few homeowners ever take this option. This framing paper summarizes recent developments in the reverse mortgage market, discusses why so few people use these instruments, and lays out the merits and drawbacks to including these products in a retirement portfolio. It is issued simultaneously with studies by Stephanie Moulton and Donald Haurin and by Thomas Davidoff that propose reforms to improve the reverse mortgage market.

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## Introduction

The widespread lack of adequate preparation for retirement has prompted a search for more and better ways to help Americans achieve a secure retirement. Much of this effort has been focused on helping working-age households both increase their saving and improve their investment strategies (the “accumulation phase”), but more recently efforts have aimed to help retirement-age households better manage risk and increase their retirement income for a given level of assets (the “decumulation phase”).

Reverse mortgages are one such strategy. In simple terms, reverse mortgages are consumer loans that are taken out against the value of a home. Unlike home equity loans, reverse mortgage loans are only repaid when the home is no longer owned by the homeowner (typically through sale or death), and the maximum amount a borrower has to pay is capped by the value of the equity in the home. Combined, these two characteristics make the product uniquely suitable for retirement-age households.

In theory, reverse mortgages should be more than a niche product. Many older households are rich in home equity, but poor in financial assets—suggesting that accessing housing wealth could materially improve their standard of living. And reverse mortgages are consistent with economic theory dictating that households should accumulate wealth during their working years and spend down that wealth in retirement—with reverse mortgages being the only plausible way to access home equity without a regular payment and while continuing to live in the home. Despite this theoretical appeal, reverse mortgages have yet to catch on—with less than 1 percent of eligible homeowners taking up the product.

Several factors drive the low take-up rate. On the demand side, reverse mortgages can carry high fees—especially to access the first dollar in borrowing. Some borrowers may be put off by the loans’ complexity and warnings about the risks of foreclosure. Also, it appears that many retirees regard their home equity as insurance against unexpected costs (especially health care costs) or as a store of wealth to be given to heirs, rather than as a source of retirement income. On the supply side, reverse mortgages carry moderate risk for issuers, who offer loans under the condition that homeowners pay insurance and property tax costs, while also maintaining the home; failure to meet these obligations can result in losses for banks. And the federal government, which serves as the backstop against losses due to falling home prices (or extended longevity), has recently instituted reforms designed to protect against losses—but that may make the program less appealing to consumers.

Two papers by Davidoff (2019) and Moulton and Haurin (2019), released simultaneously with this document, present helpful reform proposals (described below) to stimulate and

improve the market for reverse mortgages. This paper aims to serve as a companion framing paper to those policy proposals, laying out the current state of the reverse market, a summary of the economic literature, and the economic arguments around reverse mortgages—including how potential reforms can expand and improve the market. Our summary conclusion is that the market shows theoretical appeal, but a host of real-world barriers make these products untenable for most retirement-age households. A series of reforms, such as those presented by Davidoff and Moulton and Haurin, could expand the market considerably—although we are skeptical that reverse mortgages will become commonplace in the American retirement landscape.

## Overview of the reverse mortgage market

A reverse mortgage is a mortgage loan that allows a homeowner to access home equity while keeping the property as the primary residence. The biggest difference between a reverse mortgage and a traditional mortgage is that the borrower does not have to make out-of-pocket payments during the life of the loan. Instead, borrowers take periodic distributions (or in many cases a single lump-sum distribution) that add to the loan balance and grow with interest.<sup>1</sup> Then, when the loan is due (usually when the borrower dies or sells the home), the borrower or their heirs can pay off the balance and keep the home, sell the home to settle the balance, or let the lender sell the home. Importantly, too, reverse mortgages are usually “non-recourse” loans, meaning that the borrower is not responsible for the loan balance that exceeds the sale proceeds of the property.

From a theoretical perspective, reverse mortgages are appealing because they allow homeowners to draw down their housing wealth while simultaneously remaining in their home. In the context of the “life cycle model” in economics, whereby individuals seek to maintain their prior standard of living throughout retirement, reverse mortgages can be a useful tool—especially for those without a strong desire to bequeath home equity to heirs; we discuss these factors in-depth in section IV. In addition, reverse mortgages can be considered both longevity insurance and a hedge against falling home prices due to the feature that allows homeowners to remain in the home even after the balance on the loan exceeds the home’s value.<sup>2</sup>

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1. The implication of this difference is that the balances on traditional mortgages tend to decline with time, while the balances on reverse mortgages typically grow over time.
2. To our knowledge, reverse mortgages are the only product that offers both longevity protection and provides a hedge against falling home prices. A parallel strategy which could insure against these risks would be for a homeowner to enter into a shared-appreciation agreement—whereby they sell off rights to a

In practice, however, only a small portion of retirees who could potentially benefit from reverse mortgages ever take them up (Mayer and Simons 1994, Nakajima and Telyukova 2017, Venti and Wise 2004). Those who do take up reverse mortgages tend to be retirement-age homeowners with low-to-moderate income for whom the residential property is the major source of wealth. Often, reverse mortgages are seen as a tool for accessing emergency lending for borrowing-constrained households, rather than as a part of a comprehensive retirement strategy.

The reverse mortgage market is small relative to other types of home equity loans. As we discuss below, the federally backed Home Equity Conversion Mortgage (HECM) program oversees the vast majority of loans today, with private entities serving only highly specialized borrowers—often higher-valued properties. The primary role of the HECM program is to serve as a backstop against loans that exceed the approximate value of the home, with the federal government purchasing the bulk of such loans. In the wake of the housing crisis, program costs have prompted incremental changes that may diminish the appeal of reverse mortgages for consumers.

## The current HECM program

For years, the most popular reverse mortgages have been HECM loans administered by the Federal Housing Administration (FHA), a sub-agency within the U.S. Department of Housing and Urban Development (HUD). While not all reverse mortgages are insured by FHA, the HECM program dominates the reverse mortgage market by covering over 90 percent of products (Shan 2011). The most common non-HECM reverse mortgages are reverse mortgages offered by state or local agencies and non-profit organizations, as well as proprietary reverse mortgages backed by the companies that develop them.<sup>3</sup>

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proportion of future house gains in exchange for a lump-sum payment—and invest those proceeds into an income annuity.

3. These non-HECM loans include both single-purpose and proprietary loans. Single-purpose reverse mortgages are offered by some state and local governments and non-profit organizations. These are used only for one purpose, specified by the lender, such as using the proceeds for home repairs or property taxes. They are not federally insured and may not be available in some areas. Some lenders also offer proprietary (jumbo) reverse mortgages, which are not federally insured and are only backed by the companies that issue them. Different from single-purpose reverse mortgages, which most low-to-moderate income people may be qualified for, these proprietary reverse mortgages are typically designed for borrowers with higher home values. Compared with HECMs, whose annual interest rates typically range from 4.5 percent to 5.0 percent, single-purpose reverse mortgages tend to have lower interest rates, while jumbo reverse mortgages typically have higher interest rates.

Borrowers need to meet certain criteria to be eligible for a loan. HECM loans can be used for any purpose,<sup>4</sup> but there are specific requirements for borrowers and their properties: eligible borrowers must be age 62 or older, live in the home, and own the property outright or have paid-down a considerable share of the mortgage. In addition, borrowers must verify their income, assets, monthly living expenses, and indicate they have the financial resources to make timely payments of ongoing property charges.

The allowable mortgage amount typically depends on the borrower's age,<sup>5</sup> interest rate, and value of the property. The amount that can be borrowed, known as the "principal limit," is the product of the "maximum claim amount" and the "principal limit factor." The maximum claim amount is simply the home's appraised value, capped by the maximum value allowed by law. The principal limit factor is the share of the maximum claim amount that can be borrowed, which decreases with borrower age and interest rates. For example, a 70-year-old borrowing at 4 percent has a principal limit factor of 0.576, while a 65-year-old borrowing at the same rate has a factor of 0.542. Thus, a 65-year-old borrower with a \$300,000 house (an amount below the FHA cap) can borrow \$162,600 at 4 percent. Borrowers face an additional limit on the amount that can be initially borrowed during the first year of the loan.

Borrowers may draw on the available funds with one of six payment plans, including those with either fixed- or variable-rate mortgages. Currently, there is only one payment option—a lump-sum payment—for fixed interest rate mortgages, usually chosen to lock-in low interest rates. For adjustable rate mortgages, borrowers may choose from three basic options: tenure, term, or line of credit. The tenure option pays equal amounts monthly as long as the borrower or their spouse continues to live in the property; the term option makes monthly payments for a fixed period of time that is chosen by the borrower; the line of credit makes unscheduled payments or in installments, at times and in an amount chosen by the borrower until the line of credit is exhausted. Borrowers can also choose a "modified tenure" option which combines the of line of credit plan and tenure plan, or a "modified term" option which combines the line of credit plan with term plan. In 2018, 91 percent of borrowers took out variable-rate draws, with just 9 percent taking fixed-rate distributions. And roughly half of borrowers took out between 60 percent and 100 percent of their principal limit in the first month's distribution (Pinnacle

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4. In addition to traditional HECM that does not restrict the purpose of loans, there is a variant for specific usage. HECM for Purchase is a product designed to help senior homeowners purchase a new home while obtaining a reverse mortgage in the same transaction. This helps borrowers avoid paying transaction fees twice.
5. Specifically, the age of youngest spouse is used in determining HECM principal factors.



2018). The relative frequency of various distribution options is driven in large part by recent changes to the HECM program, which in 2013 disallowed the popular full-draw fixed-rate products while also limiting the share of available funds that could be withdrawn in the first year (Moulton, Haurin, and Shi 2015).

Once a HECM loan is approved, homeowners stay in their home and withdraw from their housing equity until the loan is due. A HECM loan becomes due under a number of circumstances, such as when the borrower dies, moves to a different primary residence, or fails to make required property tax and insurance payments. When the loan becomes payable, the borrower or the borrower's heirs can repay the outstanding balance (including the total principal borrowed by the homeowner and any interest and fees that have accrued), sell the home, or sign the home over to the lender.

FHA serves as a backstop against both borrower longevity and falling home prices by buying loans when the outstanding balance approximately reaches the value of the home. Typically, lenders can sell HECM loans to the FHA once the outstanding balance reaches or exceeds 98 percent of the maximum claim amount. In that sale process—known as assignment—the lender is paid either the outstanding loan balance or the maximum claim amount, whichever is lower. In practice, nearly all non-delinquent loans are assigned once the required threshold has been reached. (Delinquent loans are those whose property taxes or insurance bills have not been paid.) After assignment, FHA earns the interest that accrues on the loan, in addition to the annual insurance premiums, and continues to be at-risk for any shortfall when the loan is repaid.

The fees associated with HECM loans can be substantial. These costs include the mortgage insurance premium (MIP), the origination fee, the servicing fee, interest on the loan, and third-party charges. The MIP includes two components: an initial MIP equal to 2 percent of the loan amount and an annual MIP equal to 0.5 percent of the loan balance. The origination fee is the greater of \$2,500 or 2 percent of the first \$200,000 of the home's value, plus 1 percent of the amount over \$200,000; FHA caps these fees at \$6,000. Lenders assess servicing fees throughout the life of the loan, with monthly servicing fees capped at \$30 to \$35, depending on the type of loan.

As a product targeted towards older consumers, HECM has particularly high risk of fraud, discrimination, and uninformed consumer decisions that are potentially caused by misleading advertising, aggressive sales tactics, and discriminatory practices; a particular concern is that consumers do not fully understand the consequences of their decisions (Twomey and Jurgens 2009, Paz Garcia, Cole, and Reeves 2010). Other major consumer protection concerns include risks faced by non-borrowing spouses (e.g., when only one spouse takes out a reverse mortgage), cross-selling (requiring or convincing a borrower to

purchase a product, like an annuity or insurance policy, when applying for a loan), and foreclosure caused by the borrower's failure to pay property charges—although many of these issues have been addressed by HECM reforms in recent years.

The program requires mandatory counseling to counter some of these concerns. Applicants are required to meet with a HECM counselor to discuss program eligibility requirements, financial implications, and alternatives to obtaining a HECM and repaying the loan—with applicants receiving a certificate once the counseling process is complete. Congress also directed HUD to work with consumer groups to improve consumer education and provided HUD discretion to impose restrictions ensuring that consumers do not pay unnecessary or excessive costs for obtaining the loans.

Risks faced by non-borrowing spouses have been mitigated by recent changes to the HECM program. In 2011, for example, HUD issued guidance stating that all spouses of prospective borrowers and all co-owners of the property must receive reverse mortgage counseling in addition to the borrower.<sup>6</sup> And in 2014, HUD issued guidance clarifying that for new HECMs, the non-borrowing spouses can remain in the home following the death of the reverse-mortgage holder.<sup>7</sup>

Concerns over cross-selling have been mitigated by the *Housing and Economic Recovery Act of 2008*, which generally prohibits lenders from either requiring that borrowers purchase a particular product when applying for a loan or from attempting to influence consumers' decisions around these loans. State regulators, too, have enacted laws to protect consumers from cross-selling, including regulations that apply to both HECM and non-HECM products (Consumer Financial Protection Bureau 2012).

Perhaps the largest remaining concern is over consumers' understanding of, and ability to pay, ongoing property tax and home insurance bills. Failure to pay these bills can lead to default, with substantial shares of borrowers struggling to make necessary payments. For example, in 2012, 9.4 percent of HECM borrowers were in default on tax or insurance

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6. FHA Mortgagee Letter 2011-31 states "Clarification of Signatures on the Certificate: All owners shown on the property deed (or legal representative, in cases involving documented lack of competency) and a non-borrowing spouse must personally receive counseling. The Certificate must be signed and dated by both the counselor, all owners shown on the property deed (or legal representative for cases involving documented lack of competency), and Non-borrowing spouse."
7. FHA Mortgagee Letter 2014-07 states "For any HECM with a case number issued after the effective date of this Mortgagee Letter, in order to be eligible for FHA insurance, the HECM must contain a provision deferring the due and payable status that occurs because of the death of the last surviving mortgagor, if a mortgagor was married at the time of closing and the Non-Borrowing Spouse was identified at the time of closing."

payments—approximately 54,000 homeowners in total—up over 1 percentage point from the year before (Consumer Financial Protection Bureau 2012).

All reverse mortgage borrowers are older homeowners. The average maximum claim amount (effectively the loan amount) is about \$275,000, and the average age of a borrower is 73. Married couples make up roughly 40 percent of borrowers, with single women approximately comprising another 40 percent and single men about 20 percent—a stark change from earlier years when reverse mortgages were more frequently taken out by single women (Perl 2017).<sup>8</sup> Two-thirds of borrowers reported that paying down debt was a factor in their decision to take out a mortgage, which accords with academic evidence (discussed later) showing that homeowners often use reverse mortgages as a last-resort source of income. Only 33 percent reported that they used a reverse mortgage to raise their income and just 27 percent said they wanted to enhance the quality of their life (National Council on Aging 2011).

## The evolution of the reverse mortgage market

Reverse mortgages were initially offered in the early 1960s as a way to help widows remain in their homes and were exclusively written by local banks without federal insurance. In the late 1970s and early 1980s, reverse mortgages began attracting attention by federal policymakers as a strategy for allowing older homeowners to access their home equity. In the late 1970s, for example, the Administration on Aging provided funding for the study of reverse mortgage pilot programs, and the 1980 White House Conference on Aging issued a 1981 report recommending reverse mortgages as a possible strategy for helping older Americans convert home equity to income (Perl 2017).

Throughout the 1980s, members of Congress proposed several bills establishing a home equity conversion program, but the program was not established until 1988—when Congress authorized HECMs as a demonstration. HECMs existed as a demonstration for a little over a decade, with Congress periodically increasing the maximum number of loans that could be insured. Initially, HUD had authority to insure just 2,500 homes, although this was gradually increased to 50,000 allowable loans. During this period, loans had to conform to several characteristics, including required counseling for borrowers and a

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8. <sup>8</sup> A Congressional Research Service report speculates that the trend away from single women was driven by two factors. One, until recently, couple borrowing increased due to a practice of removing the younger spouse (typically a woman) from the deed to increase the amount that could be borrowed. Two, the new HUD rule that the age of the younger non-borrowing spouse be accounted for may help explain the increase in couple borrowing (Perl 2017).

provision that the loan need not be repaid until death or sale (a “non-recourse” provision which, as noted above, allows the value of the loan to exceed the value of the property). In FY1999, Congress changed the HECM program from a demonstration to permanent program and increased the maximum number of insured homes to 150,000, maintaining the counseling and non-recourse provisions.

Once the HECM program evolved into a permanent program, Congress and regulators implemented several incremental reforms to the program that would increase its scope. For example, Congress reformed the maximum HECM loan limit from a county-specific limit to a nationwide standard of \$417,000 in 2006, increasing it to \$625,500 in 2009 and then again to \$726,525 in 2019. In addition, the maximum number of HECM loans was increased to 250,000 in 2005 and then again to 275,000 in 2006.<sup>9</sup> In 2009, Congress allowed owners of FHA-approved multi-family homes to participate in the HECM for Purchase program.

During the housing crash, Congress and regulators made several changes to make the program more appealing to consumers. In 2008, for example, Congress allowed HECM loans to offer fixed-rate mortgages on lump-sum distributions, which helped propel the relative popularity of fixed-rate products. Between FY2010 and FY2014, the share of fixed rate mortgages increased from 31 percent to 89 percent—with the majority of fixed rate loans being designated for the maximum distribution (Figure 1, Munnell and Sass 2014). In 2009, in an attempt to offer low-fee products tailored to low-risk borrowers, Congress introduced the “HECM Saver” program, which offered loans with substantially lower upfront premiums (just 0.01 percent compared to 2.0 percent on standard HECMs) in exchange for lower maximum borrowing amounts.

In the wake of the Great Recession and attendant housing crisis, Congress and HUD implemented several changes to control the cost of the program—which was intended to be self-financing, but at-times ran severe deficits during the housing recovery.<sup>10</sup> In 2013, for example, Congress passed the *Reverse Mortgage Stabilization Act* to help address fiscal pressure on the program, including a key provision that allowed HUD more unilateral ability to initiate reforms without engaging in the notice and comment process. HUD used this authority to implement a series of important changes to the program, including the end of the HECM Saver program, a limit on the amount that could be withdrawn in the first year,

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9. The caps on the number of allowable HECMs has been waived in recent appropriations acts.

10. FHA estimated that reverse mortgages cost the Mutual Mortgage Insurance Fund—which collects premiums and pays claims—approximately \$14 billion in 2018. As explained by Golding and Goodman (2017), reverse mortgages only comprise 6.5 percent of the fund, but are a highly volatile component. See Congressional Budget Office (2019) for a discussion of the budgetary considerations with HECMs.

and a higher mortgage insurance premium for loans that had initial distributions exceeding 60 percent of the principal loan limit.<sup>11</sup> More recent reforms include a requirement that borrowers' loan histories be taken into account and grant authority to the FHA Commissioner to design incentives for voluntary set-asides by borrowers.

Throughout the program's history, Congress enacted multiple reforms to increase transparency and help borrowers make financial decisions in their best interest. In 1994, for example, the *Home Ownership Equity Protection Act* required lenders to disclose to borrowers the total annual loan costs at the start of the application. In 2001, HUD and the American Association of Retired Persons (AARP) partnered to establish the HECM counseling policies and procedures, which later became mandatory (Redfoot, Scholen, and Brown 2007). In 2008, the *Secure and Fair Enforcement for Mortgage Licensing Act* required states to implement consistent procedures when licensing and registering HECM loan originators. Also, the *Housing and Economic Recovery Act* put a limit on origination fees, ruled against lenders overselling additional services to lenders, and strengthened the independence of consumer counseling.

Consumers' motivation to borrow has also changed over time, with reverse mortgages evolving from a source of emergency funding and general consumption to a strategy to lower other types of consumer debt. For example, a 2006 survey revealed that the primary motivation for getting a reverse mortgage was to plan for emergencies and to improve the quality of life (Redfoot, Scholen, and Brown 2007). A follow-up survey in 2010 found that the primary motivation changed from "quality of life improvement" to "debt alleviation", with the shift in motivation due in part to higher amounts of traditional or "forward" mortgage debt being carried later in life than in the past, and an increase in the overall indebtedness of Americans in general (Trawinski 2013).

Recent reforms appear to be impacting the volume of reverse mortgages, especially the 2017 reform that lowered the principal loan factors and increased the up-front mortgage insurance premiums. Since the fall of the housing market in 2007, demand for HECMs has

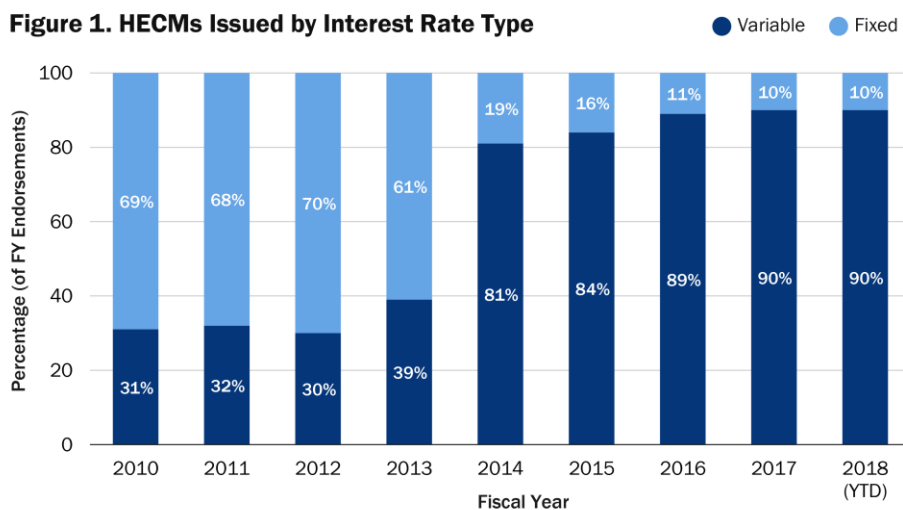
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11. According to a report by Consumer Financial Protection Bureau (2012), fixed-rate loans previously constituted roughly 70 percent of the market. The popularity of fixed-rate loans, which allows mortgagors to draw down all funds at the time of loan closing, caused higher payouts of insurance claims and increased risks to the FHA Mutual Mortgage Insurance Fund. To improve the fiscal safety and soundness of the program, FHA decided to build upon the existing fixed interest rate mortgage policy guidance and put a loan-to-value ratio on these loans. After the change made by FHA in 2013, fixed-rate loans accounted for less than 4 percent of new HECM loans as of May 2019.

stabilized at around 50,000 to 60,000—down about half from the peak in 2011 (Figure 2).<sup>12</sup> Later in this brief we discuss the literature around the determinants of the take-up rate for reverse mortgages.

Other recent reforms to the market are moderately affecting the applications process and the characteristics of new loans. Following the 2018 HUD rule requiring certain reverse mortgage applications—those flagged by HUD as potentially being inflated—roughly one-fifth of applications have been subject to a second appraisal. And the 2014 rule requiring set-asides for borrowers at-risk of tax and insurance default has had an impact as well, with 13.7 percent of loans having a full-funded set-aside and another 1.0 percent carrying a voluntary set-aside.

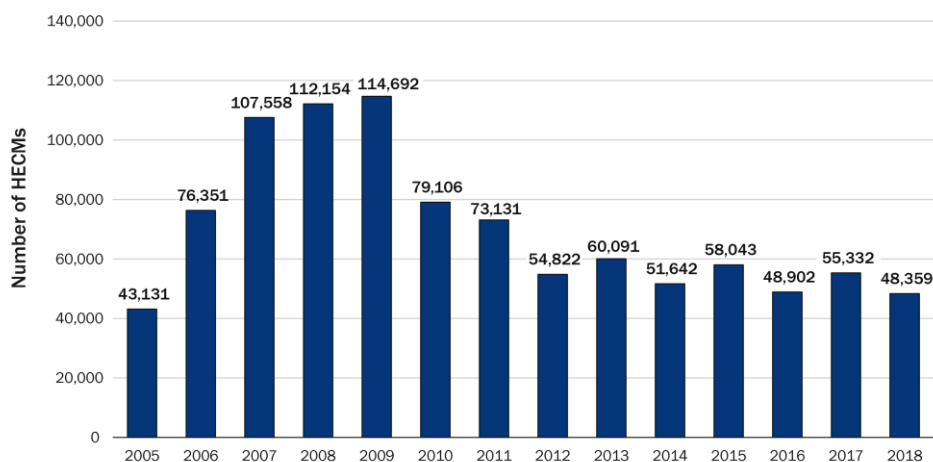
The HECM program remains a controversial topic. Media reports of widespread failures, with especially acute rates in Chicago, Baltimore, Miami, Detroit, Philadelphia and Jacksonville, paint the loans as perilous financial products that can bankrupt consumers. Ongoing attention to the fiscal drain of the HECM program may prompt additional reforms that, if implemented, would likely further depress volume. And consumer groups remain vigilant against high fees and the potential for predatory lending on behalf of private actors in the market. Still, some economists see promise in the concept of reverse mortgages and their ability to help retirement-age households achieve a more comfortable retirement. In the next sections, we review the economics literature on reverse mortgages and comment on how they fit into the retirement landscape.



Source: Office of Single Family Housing

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12. This demand is almost exclusively for traditional HECM loans. Over the first five months of 2019, for example, there were 13,816 new HECM loans, of which 12,259 were traditional HECM loans, 898 purchase loans, and 659 HECM for refinance loans.

**Figure 2. Number of HECMs**

Source: U.S. Department of Housing and Urban Development, obtained via Statista 2019.

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## Review of the reverse mortgages literature

A widely-held view in the reverse market literature is that the market is underutilized and that a sizable share of retirement-age households could benefit from the products (Kutty 1998, Mayer and Simons 1994, Merrill, Finkel, and Kutty 1994, Nakajima and Telyukova 2017, Rasmussen, Megbolugbe, and Morgan 1995, Shan 2011, and Venti and Wise 1991). At the extremes in the literature, Merrill, Finkel, and Kutty (1994) conclude that about 9 percent of homeowners over age 69 could benefit from reverse mortgage loans, while Rasmussen, Megbolugbe, and Morgan (1995) argue that this share is nearly 80 percent (for elderly women); other studies that we are aware of have estimates between this range (Kutty 1998, Mayer and Simons 1994, and Venti and Wise 1991).

Several studies show that reverse mortgages can markedly benefit consumers. While methodology varies, a handful of these studies employ utility-based models whereby households can increase their (housing and non-housing consumption) through the availability of reverse mortgages. For example, Nakajima and Telyukova (2017) use a calibrated life-cycle model to simulate the benefits of reverse mortgage take-up, finding that borrowing-constrained households—typically low-income, low-wealth households—can theoretically use reverse mortgages to support either small consumption expenditures or large medical expenses.<sup>13</sup> Their simulations show that this option is worth \$252 to all retirement

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13. A less-sophisticated way to estimate the potential market for reverse mortgages is to examine the number of older households with high proportions of total wealth in the form of housing equity. The 2007 Survey of

households, and \$1,770 for those who eventually take it up. Not surprisingly, the estimates predict markedly higher take-up rates for lower-income and older households, with lack of bequest motive playing an especially important role. In short, their model supports the notion that households regard reverse mortgages as a “last resort” source of income—a valuable resource to older households for whom sources of income is likely not abundant.

Reverse mortgages can also be welfare-enhancing as they may permit older homeowners to remain in their current home, which is a documented implied preference among many retirees. For example, a series of studies (Venti and Wise 1989, 1990, and 2004) show that elderly homeowners do not reduce their housing wealth in the absence of precipitating events such as the death of a spouse or a move to a nursing home—which the authors attribute to elderly homeowners’ strong psychological attachments to their homes. Importantly, too, these studies not only find an attachment to homes in which homeowners currently live, but to a given level of housing equity—suggesting that older homeowners don’t like to move homes or reduce the value of the homes in which they live.

Survey evidence is also suggestive of a larger potential market for reverse mortgages. For example, older Americans have expressed a strong preference for remaining in their homes: one survey sponsored by AARP found that 95 percent of persons 75 and older agreed with the statement “What I’d really like to do is to stay in my current residence as long as possible” (Bayer and Harper 2000). In addition, Haurin, Loibl, and Moulton (2019) find that HECM debt is less stressful than forward mortgage debt for older households.

On the flipside, some evidence suggests that reverse mortgages are welfare-reducing for a subset of households—helping explain low aggregate take-up rates. Michelangeli (2010) finds that reverse mortgages are likely to improve the welfare of cash-rich households (those with more than \$40,000 in liquid assets), but impose losses on house-rich, cash-poor households—with reductions in welfare associated with the reduced consumption arising from the combination of high up-front charges and, especially, interest charges on accumulated debt. Although the result is somewhat counter-intuitive, the central observation is that if cash-poor households are forced to move due to a health shock or other reason, the combination of high fees and high interest rates (relative to financial returns) will leave these borrowers in a state of permanently lower consumption.<sup>14</sup> For these potential

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Consumer Finances data suggest that, for 6.5 million homeowners aged 62 or above, or one-quarter of all homeowners in this age group, housing wealth represents at least 80 percent of their total wealth.

14. Nakajima and Telyukova (2017) summarize this dynamic in Michelangeli’s study by writing “The worst outcome for RML borrowers is to face a compulsory moving shock shortly after paying the large up-front cost of a reverse mortgage but before using the line of credit,” (p. 939). In other words, being forced out of a



borrowers, taking out the standard reverse mortgage and borrowing the maximum amount permitted reduces their expected utility, on average, to the same degree as a 14 percent loss in financial wealth (which is a small absolute number since this group is cash poor).

Stories in the press about reverse mortgages often stress the dangers of foreclosure where older families are forced out of their homes. Indeed, borrowers are required to reside in their home or repay the loan if they choose to move, and local authorities may initiate foreclosure proceedings for persistent non-payment of taxes, regardless of whether there is a mortgage on the property. This is a legitimate danger, but these stories may not give the full picture. In recent years about 18 percent of reverse mortgages ended in foreclosure, but 75 percent of these are because the homeowners no longer live in the home and the remaining 25 percent are because property taxes have not been paid (Government Accountability Office 2019). And often, lenders have an incentive to work with homeowners to remedy non-payment of taxes because foreclosures are costly.

Other evidence shows that demand for reverse mortgages may vary with macroeconomic forces, namely local housing prices. For example, one study of the explosion in reverse mortgage activity between 2001 and 2006 found that homeowners were significantly more likely to take reverse mortgages home values were at their peak, with the run-up in housing prices in the early part of the prior decade explaining roughly half the increase in reverse mortgages (Shan 2011). Another study, examining the period including the housing boom, bust, and recovery, found higher take-up rates in states with high house price volatility and high prices relative to the historical average—suggesting that homeowners use reverse mortgages to lock-in home equity (Haurin et al. 2016).

Some evidence suggests that recent policy reforms have been a barrier to program growth. Several studies show that post-crisis HECM reforms aimed at improving the program's fiscal position likely dampened demand over the past decade. In particular, one set of simulations estimated that the 2013 reform likely reduced demand by tightening borrowing limits for most retirees, in spite of lowered costs for some borrowers (Nakajima and Telyukova 2017). Here, tighter borrowing limits marginally depressed demand, but were offset by lower insurance costs for many borrowers—with the net impact being slightly lower take-up, but higher welfare gains across all borrowers. Further, a survey of academics by the Government Accountability Office (2019) noted that some respondents attributed weakened HECM demand to limits on maximum borrowing

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home due to a negative health shock soon after initiating a reverse mortgage, having surrendered a large share of liquid assets to fees, is an overwhelmingly bad outcome for cash-strapped older households.

amounts, such as those imposed in 2010 and, more recently, 2017. Similarly, the 2017 reform, which significantly changed the rules of HECM loans (including the qualification criteria, borrowing limit, and upfront and closing costs), could depress demand as borrowers with short remaining homeownership tenures are not able to justify the increased upfront costs following the reform. The ultimate verdict on the utility of these reforms depends critically on one's position about the relative importance of supporting a broad market versus attempting to reign in the fiscal costs of the program and making sure older borrowers will not lose out from the instrument.

In sum, despite the theoretical appeal of reverse mortgages, there appears to be a gulf in the reverse mortgage market between potential and realized demand for the product. Virtually all studies of reverse mortgages have noted this discrepancy, and a large share of the literature on reverse mortgages is devoted to the gap between predicted and observed take-up. The remainder of this section aims to explain this low take-up rate.

## Explaining the low take-up rate

Researchers have provided multiple reasons to explain the low take-up among eligible households. Bequest motives, or desire to leave an inheritance to heirs, is a paramount factor. As noted above, housing equity comprises a large share of wealth for many older households, and reverse mortgages subtract from net wealth and potential bequests. For example, Nakajima and Telyukova (2017) estimate that in the absence of a bequest motive, the take-up rate for reverse mortgages would jump to 17 percent and the borrowing from these loans would increasingly be used to finance general consumption relative to unexpected housing shocks.

High up-front spending—including the initial MIP, origination fee, and third-party charges—is another potential factor driving low take-up rate. As noted above, the combined up-front costs can be substantial, with the fees for reverse mortgages exceeding those of other strategies for accessing home equity—such as home equity lines of credit (Government Accountability Office 2019). Various papers have found that mortgage demand is negatively correlated with up-front costs, (Government Accountability Office 2019, Michelangeli 2010, Nakajima and Telyukova 2017) namely origination fees which can reach \$6,000 for high-value properties.

Simply looking at the impact of up-front costs may be insufficient to fully explain the dynamics between up-front costs and reverse mortgage demand. These costs are partially assessed to compensate for the crossover risk borne by lenders, and government insurers, that the loan balance will exceed the sale price of the house (also known as the “non-

recourse” feature).<sup>15</sup> Although some studies have shown that the benefits of this non-recourse feature benefit most homes (Davidoff 2015), the salience of this benefit may not be apparent or valued. Nakajima and Telyukova (2017) model an experiment in which the non-recourse feature is abandoned and find that such a reform would boost take-up by 73 percent so that 2.9 percent of eligible households undertook a loan. They explain this apparent contradiction by noting that most borrowers are able to pay the balance on the loan; public programs already provide a “consumption floor,” reducing the value of the insurance; and they do not model swings in housing prices, which may inherently understate the value of the implicit housing insurance of non-recourse loans.

A related barrier to high reverse mortgage demand may be sluggish housing price growth. Higher housing prices may be associated with increased demand by increasing the amount of equity against which consumers can borrow, and also perhaps by increasing perceptions regarding the likelihood of sharp declines in housing prices. In addition to a study by Shan (2011) attributing one-half of the increase in reverse mortgages in the 2000s to rising home prices, Nakajima and Telyukova’s (2017) model finds that a deterministic 4.5 percent annual housing price increase would lead to a six-fold increase in housing prices. This is consistent with the notion in their model that consumers do not regard reverse mortgages as valuable hedges against housing price declines.

The last important explanation for the low take-up rate relates to mobility risk and long-term care. A large literature has linked the onset of long-term care needs to extraction of home equity (Venti and Wise 1990, 1991, 2004), with ability to extract home equity cited as a causal factor for limited long-term care insurance (Davidoff 2010). Under a scenario where older individuals have a strong preference to remain in their homes (or “age in place”), households use their home equity as insurance against institutional long-term care needs and sell their home upon realization of the onset of a health shock. However, this scenario is premised on the assumption that individuals leave their home upon needing long-term care. Under a scenario where individuals can receive in-home care, reverse mortgages can finance long-term care expenditures by providing access to home equity. Thus, the relationship between long-term care shocks and demand for reverse mortgages

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15. Lucas (2015) notes that HECMs are largely beneficial to lenders with a net present value (NPV) of \$31,000 per loan, compared to *negative* \$27,000 for borrowers (and a government subsidy NPV of \$4,000). The paper further notes that reverse mortgages offer an opportunity for private lenders to take on risk that approximates that of Treasury securities, while charging 1–3 percent above the risk-free rate.

depends critically on the nature of the health shock and whether an individual requires nursing home care or can receive long-term care while remaining in their own home.<sup>16</sup>

These reasons for low take-up rates all relate to the demand for reverse mortgages, but there is also evidence that market failures—namely moral hazard and adverse selection—may drive down the supply of reverse mortgages, as well. Moral hazard in the reverse mortgage market can occur when homeowners, once their loan balance has exceeded the market value of their property, have limited financial incentive to maintain the property or pay property taxes. This factor may be exacerbated by reputational risk, or the reluctance of lenders to evict older homeowners because it creates adverse publicity (Haurin and Moulton 2019).

The presence of moral hazard can potentially either restrict the aggregate supply of mortgages or lead to high fees. To take one example, Miceli and Sirmans (1994) predict that lenders will respond to moral hazard either by limiting the amount of reverse mortgage loans to guarantee that maintenance risk is not a threat, or by charging an interest rate premium to cover the expected cost of default; either way moral hazard is a burden on borrowers who enter the market.

There is mixed evidence of the role adverse selection, or the notion that borrowers have specialized knowledge of their own characteristics. Adverse selection may occur if households have asymmetric information regarding their own mortality or expected duration in the home.<sup>17</sup> However, researchers have found that the reverse mortgage market is characterized by selection that is advantageous for lenders because some borrowers sell their homes relatively quickly (Davidoff and Welke 2007). This finding can be explained by the observation that reverse mortgage borrowers are predisposed to consuming their housing equity, and thus are prone to sell their home soon after taking out a reverse mortgage.<sup>18</sup> A complementary interpretation is that homeowners do not use reverse mortgages as a hedge against falling home prices.

In the context of reverse mortgages, we also note that the line between adverse selection and moral hazard can become blurred. For example, a homeowner *a priori* knowing that they have a financial situation that will make it difficult to pay property taxes could be

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16. Similarly, households can potentially make themselves better off by using reverse mortgage funds to purchase long-term care insurance.
17. As noted by Davidoff and Welke (2007), long expected durations is only a concern in the reverse mortgage market if interest rates exceed home price appreciation.
18. The Davidoff and Welke finding that many homeowners sell soon after taking out a reverse mortgage likely also reflects timing; there had been rapid house price increases prior to 2007.

classified as adverse selection. If they change their behavior as the loans mature so that they don't pay these taxes this would certainly be classified as moral hazard. Either way, studies have found that interventions throughout the course of the loan can reduce certain negative outcomes, namely foreclosure, for lenders and borrowers. For example, one study found that sending quarterly letters and providing a refrigerator magnet reminding borrowers of their property tax and home insurance responsibilities reduced the incidence of default by roughly one-third, with stronger results for likely borrowing-constrained households who may need advance planning to come up with funds for the payments (Moulton et al. 2019).

## The potential for reverse mortgages to strengthen retirement security

Inadequate retirement preparation for many American households has been well documented. While there appears to be no precise consensus on the share of households exhibiting inadequate saving, the majority of studies suggest that a large share of Americans—including those nearing retirement age—do not have adequate resources to maintain a comfortable standard of living throughout retirement. To take one example, the National Retirement Risk Index, produced by the Boston College Center on Retirement Research, estimates that 50 percent of Americans—and 44 percent of households in their 50s—are saving inadequately for retirement (Munnell, Hou, and Sanzenbacher 2018).<sup>19</sup>

Most measures of retirement adequacy are based implicitly or explicitly on the life-cycle model of consumption and saving. This model states that households should devote their working years to saving and accumulating assets, and then devote their retirement period to consuming their accumulated wealth. Importantly, too, the life cycle model suggests that households can make themselves as well-off as possible (or, “utility maximizing”) by spreading their spending roughly evenly through their lifetime.

Homeownership presents an opportunity to help households meet the goals of the life-cycle model. Because of the widespread access to low-interest debt financing (i.e., mortgages), younger homeowners can borrow in their younger years to finance a higher standard of living and eventually pay down the debt throughout their working lives. The challenge with homeownership, of course, is that owning a home over the entire course of one's life means holding substantial wealth at death in the form of home equity. If the goal of a person is to save during working years and then spend this wealth in retirement,

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19. For a review of the perspectives on retirement saving adequacy, see Congressional Budget Office (2017).

the inability to consume housing wealth is a shortcoming. Thus, enter reverse mortgages—which are the preferred, if not only, strategy for permanently spending down housing wealth.<sup>20</sup> In summary, reverse mortgages are appealing in a textbook setting in which households take on debt in early years, gradually pay it back over time, and begin to accumulate wealth—which is used to fund a retirement in which retirees enjoy the same standard of living as during their working years.

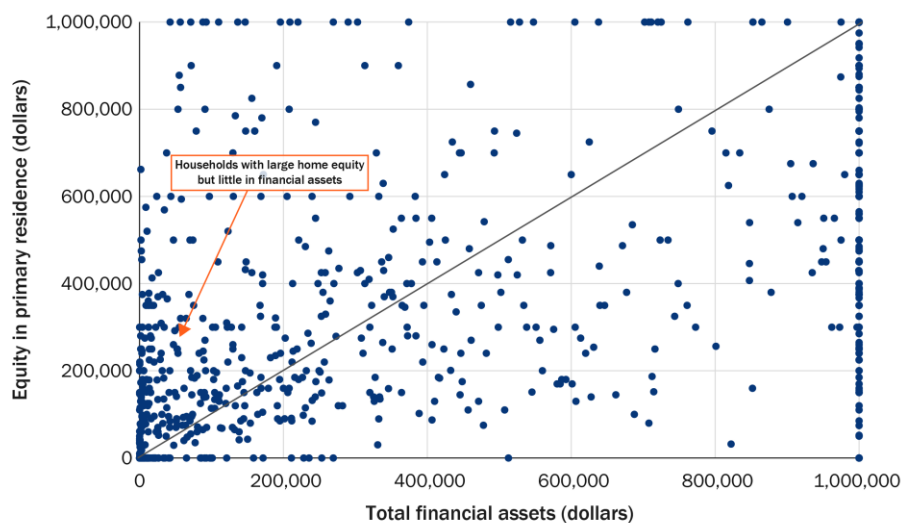
Beyond their theoretical appeal, reverse mortgages are occasionally touted as a retirement security solution because many retirement-age households have accumulated an exceptionally large share of their wealth in housing equity.<sup>21</sup> At the extreme, a household with sufficient total wealth to be considered an “adequate” saver, but with all of that wealth held in housing equity, presents a challenge: while the household would be deemed adequately prepared for retirement, the ability of that household to meet expenses with just a Social Security check might be limited.

A simple tabulation shows that many households can be characterized as housing rich, but with limited financial assets. In the chart below, we plot financial wealth against housing wealth to show that a large share of households—those above the 45-degree diagonal line—have more in housing wealth than in financial wealth. (The sample below consists of married households headed by a person aged 55 to 64.) And a substantial share of households have housing wealth measuring several times their financial wealth; a few households have almost no financial wealth relative to the value of their home equity. These are the people who may be made better off with a reverse mortgage.

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20. Home equity lines of credit offer the opportunity to temporarily consume (or spend) housing wealth, but those lines of credit must be repaid in full.
21. The chart above values home equity as the difference between a home’s market value and the outstanding mortgage. An alternative view is to measure the value of a home as the present value of the expected housing services (i.e., market rent) less the present value of housing expenses (e.g., insurance, taxes, and maintenance) plus the expected value of home price appreciation. See Davidoff (2019) for more details.

**Figure 3. Total Financial Assets vs. Housing Equity**  
**Married American Households, Ages 55–64**



Source: 2016 Survey of Consumer Finances.

Note: Dollar amounts above \$1 million are top-coded to \$1 million.

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A natural response by housing rich, but financially poor households, would be to sell their home. Indeed, while many retirees downsize in their later years, a large share of retirement-age households maintain ownership until very late in life or until death. This long-tenured ownership has been attributed to a host of reasons. For example, some retirees appear to view their home as an insurance policy against a downturn in health or change in household composition (Poterba, Venti, and Wise 2011). Some retirees see their home as an asset to be eventually given to heirs—a strategy that would be consistent under the life-cycle model with bequest motives (Nakajima and Telyukova 2017). And still for others, the high cost of selling a home—which can approach 10 percent of the gross value of the home—may prove prohibitive (Harris 2013). The high cost of housing transactions for homeowners is rarely mentioned in the discussion of reverse mortgages. While the high cost of originating a reverse mortgage is rightfully cited by analysts, this cost should also be measured against the cost of accessing home equity through the sale of a home. Put differently, for a homeowner with a \$300,000 home seeking a \$150,000 reverse mortgage, a \$8,500 reverse mortgage fee might seem high until measured against the \$30,000 cost of selling a home.

A final consideration with reverse mortgages is risk transfer. Retirees of all stripes bear enormous risk when it comes to retirement, ranging from longevity risk to inflation risk to risk of a negative health shock. Homeowners also bear housing price risk, which is especially acute for those households with high shares of wealth in home equity. Reverse

mortgages offer an opportunity to shift that risk onto lenders (and the government, which insures almost all loans). As explained by Davidoff and co-authors in a series of papers (Davidoff 2015, Davidoff, Gerhard, and Post 2017, Davidoff and Welke 2017), because reverse mortgages allow the value of the loan to exceed the value of the home, these loans can protect homeowners against falling home prices since borrowers do not have to pay back the value of the loan that exceeds the home value.<sup>22</sup>

In sum, reverse mortgages offer potential benefits to retirement-age households seeking to strengthen their retirement security. Most notably, reverse mortgages can allow households to smooth out their consumption over their lifetimes, so they can enjoy their wealth in retirement rather than holding a large nest egg at death. They allow households a chance to access housing equity without paying the high cost of selling a home. And reverse mortgages provide an opportunity to offload risk onto lenders, including the ability for savvy homeowners to cheaply insure against a sharp downturn in the housing market.

These theoretical potential benefits have yet to translate into material adoption of reverse mortgages. As discussed earlier in this brief, however, researchers have identified a host of barriers to reverse mortgages, including high fees, lack of trust, limited understanding by consumers, use of home equity as insurance against health shocks or as a store of wealth for bequests, and general reputational risk. In addition, concern over the role of foreclosure and the risk carried by lenders has also likely driven down the supply of reverse mortgages. To date, it appears that these barriers to reverse mortgages have far exceeded their theoretical benefits.

## Potential solutions

Observing a wide gap between predicted and observed take-up, researchers have provided alternative product designs or market regulations. Targeting the low take-up rate, Nakajima and Telyukova (2017) propose three effective alternative product designs: lower (0.5 percent) up-front insurance premiums would boost demand by 50 percent; a recourse design would increase the demand by three times; and zero up-front cost would boost demand by four times. Redfoot, Scholen, and Brown (2007) note the high costs of current products and suggest several ways to reduce costs, including introducing competition into the market to reduce the expense of reverse mortgages. Goodman (2019) lays out a broad agenda to improve the reverse mortgage market, calling for reforms ranging from the

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22. Davidoff, Gerhard, and Post (2016) explain “HECMs include a no-negative equity guarantee for the borrower....That is, the borrower is not liable for the part of the loan amount that might exceed the home value when the loan is paid back. Thus, in essence, the borrower owns a put option for selling the home (underlying) to the lender with the loan amount as the strike price (footnote 3).”



reintroduction of a modified HECM Saver program to making LESAs the default option in reverse mortgages.

In a recent report assessing the fiscal position of the HECM program, the Congressional Budget Office (Congressional Budget Office 2019) advanced four potential reforms designed to lower the program's cost. The Congressional Budget Office's proposed cost-saving reforms included converting the HECM program to a direct loan program (in which the government would fund HECMs, although private lenders would still generate loan originations); reducing the trigger for assigning HECMs to FHA from 98 percent of the maximum claim amount to a lower percentage; sharing the risk of losses with lenders; and slowing the growth of the borrower's available principal limit.

Two companion papers that accompany this framing brief outline two additional novel approaches. Observing that lenders bear substantial default risk, especially among homeowners whose loan exceeds the value of the home, Davidoff (2019) proposes a fundamental restructuring of reverse mortgages so that a portion of the home's initial value is converted to a lifetime income annuity. Under Davidoff's proposal, borrowers would purchase an annuity that would provide regular payments to be devoted to insurance and property taxes, leading to diminished default risk and an expanded supply of mortgages that would be offered on more favorable terms.

Moulton and Haurin (2019) propose a series of incremental reforms aimed at fixing various shortcomings in reverse mortgage design. To start, the authors propose that HUD introduce alternatively structured products designed to meet borrowers with specialized needs, including "streamlined" small-dollar reverse mortgages for borrowers who need access to limited home equity and convertible products that allow homeowners to convert forward (i.e., traditional) mortgages to reverse mortgages. Second, the authors advocate for better incorporating differential risk into the pricing of the loan, through approaches such as allowing the mortgage insurance premiums to be based on the likelihood that the loan will be underwater and by requiring set-asides at the onset of risky loans to protect against default. Lastly, they suggest preventive servicing that would identify potentially problematic loans and provide assistance as a means of mitigating default.

Our view of the reverse mortgage market is that it shows potential for growth and could be substantially aided by the thoughtful reforms listed above and described in the companion papers. In particular, reforms that mitigate foreclosure risk would likely boost both the supply of and demand for reverse mortgages, potentially making the products cheaper in the process. At the same time, reforms aimed at providing greater access to low-cost, low-risk loans as a means of taking on small dollar loans are also appealing and may help middle-wealth households achieve greater security against unanticipated costs. However,

despite our optimism about the potential for reverse mortgages to become a more significant part of the retirement landscape, this view remains tempered by their high costs and unproven appeal. Accessing the first dollar of home equity through reverse mortgages is exceptionally expensive, and even a stark decline in the price would be insufficient to make the products appeal to a majority of retirement-age homeowners. In sum, a series of thoughtful reforms may well boost these reverse mortgages beyond their current status as a niche product but are unlikely to make them a common pillar of American retirement.

## Conclusion

At first glance, the case for reverse mortgages looks appealing. Reverse mortgages can transform illiquid wealth into income for the many elderly households who lack financial assets but that have considerable value in the equity in their homes. While these homeowners could sell their property to realize the equity, many prefer to keep living in their own home. In addition, because reverse mortgages allow homeowners to remain in the home even after the value of the loan exceeds the home's value, these mortgages provide insurance against extended longevity or falling home prices. Combined, these theoretical benefits suggest that reverse mortgages could play a larger role in the American retirement landscape. The reality, however, turns out to be more complex. The reverse mortgage market suffers from a host of shortcomings which suppress both supply and demand. Many of these shortcomings can be addressed by policy reforms. While we are skeptical that reverse mortgages will become a widespread pillar of American retirement, there is economic justification for the product to play an expanded role in helping older Americans achieve a secure livelihood.

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## **B** | Retirement Security Project at BROOKINGS

The Retirement Security Project is dedicated to promoting common sense solutions to improve the retirement income prospects of millions of American workers. Nearly half of all workers do not have access to an employer-sponsored retirement savings plan or a traditional pension. Among workers who do have access to such a plan, the shift from defined benefit pension plans to defined contribution plans makes it even more important for individuals to save for their own retirement. To address these trends, RSP proposes research-based policy solutions aimed at helping middle- and low-income Americans to better prepare for a financially secure retirement.