
The Institute for Behavioral and Household Finance



White Paper Series

Reverse Mortgages:

The Costs, the Benefits, and the Risks

Vicki L. Bogan* and Ethan Coy†

Cornell University

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Cornell University • The Charles H. Dyson School of Applied Economics and Management • Warren Hall, Ithaca, NY 14853 •

E-mail: ibhf@cornell.edu • <http://bogan.dyson.cornell.edu/ibhf/>

* Associate Professor, Dyson School of Applied Economics and Management, Cornell University & Director, Institute for Behavioral and Household Finance.

† Undergraduate Research Scholar, Institute for Behavioral and Household Finance.
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Introduction

Home equity is the most significant asset for the vast majority of households in the U.S. As a result, home equity could be used to support consumption during retirement. In theory, traditional home equity loans and lines of credit can be utilized to access home equity for retirement consumption, without the need to sell the home. However, these traditional financial products require future monthly payments, sufficient income, and adequate credit scores. Consequently, these types of financial products may not be accessible to most older retired individuals who cannot satisfy these criteria.

A reverse mortgage is a type of financial product that was developed to facilitate retirement consumption from home equity without requiring households to sell their homes. This product allows older homeowners to borrow against their housing wealth without moving out of the home, while insuring them against significant drops in housing prices. As people consider how they will be able to pay for expenses during retirement, reverse mortgages have become products that all retirees should understand and consider.

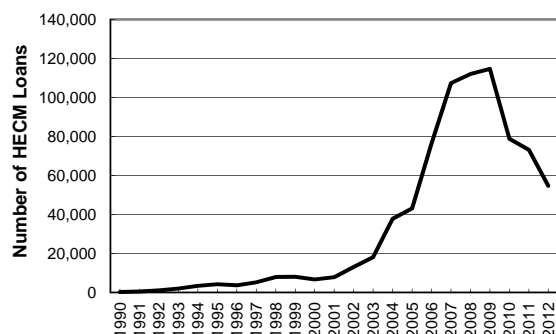
Background

In the U.S., the vast majority of reverse mortgages are originated under the Home Equity Conversion Mortgage (HECM) program which is insured by the Federal Housing Administration

(FHA) (Cocco & Lopes, 2014). HECM loans represent over 90 percent of all reverse mortgages originated in the U.S. market (Shan, 2011).

The first reverse mortgage was originated in 1961 (Guerin 2012) and since then, the market for reverse mortgages has grown very slowly. Initially, the potential size of the reverse mortgage market was estimated to be considerable. Mayer & Simons (1994) used data from the 1990 Survey of Income and Program Participation to argue that over six million homeowners could increase their monthly income by over 20 percent by using a reverse mortgage, and that reverse mortgages would allow nearly 1.5 million people to increase their income above the poverty line. Merrill, Finkel, & Kutty (1994) estimated that the prime market for reverse mortgages was approximately 800,000 people.

Despite estimates of a large potential market, only 2-3 percent of eligible seniors use reverse mortgages (Nakajima & Telyukova, 2014). Nakajima & Telyukova (2014) find that bequest motives, nursing home moving risk, house price risk, and loan costs all contribute to the low take-up rate. Figure 1 shows that the total number of HECM loans increased gradually between 1990 and 2002 with a sharp increase in total loans between 2005 and 2009. After 2009, the total number of loans began to decline.

Figure 1: Single Family HECM Loans (1990 – 2012)

Source: U.S. Department of Housing & Urban Development

The Mechanics of a Reverse Mortgage

With a traditional (or “forward”) mortgage, an individual borrows money to buy a house and makes periodic loan payments to a lender. With a reverse mortgage, a homeowner borrows against the equity in his/her house and receives money from a lender. Reverse mortgage borrowers do not make loan or interest payments. When the borrower dies, moves out, or sells the house, (s)he or his/her estate is responsible for repaying the total loan which includes both the principle loan amount and the accrued interest payments.

Contrary to a widely-held belief, the lender does not receive the house as repayment. The loan can be repaid with any available source of funds, which usually includes the proceeds from the sale of the house (Eschtruth & Tran, 2001). If there is any remaining equity in the home, the heirs are

entitled to it. However, it is unwise for heirs to assume that they will have a claim to the equity on the home, as lenders try to structure the product in order to extract all of the equity from the home by the time the borrower dies.

The retiree or his/her heirs are not liable for any shortfall. If at the time the loan must be repaid, the proceeds from the sale of the house are lower than the outstanding loan balance, the FHA insurance will cover the difference so that lenders will receive the full outstanding balance. Further, the borrower cannot be forced to sell the home to pay off the mortgage.

To qualify for a reverse mortgage, an individual must be 62 years of age or older, own the home entirely (or owe a small mortgage which can be paid off from the proceeds of a reverse mortgage), and speak with a reverse mortgage counselor to discuss the product¹. Borrowers must be able to pay insurance and taxes on the home. Further, the borrower must continue to live in the home and maintain the property in a good state of repair. At the time of the reverse mortgage origination, borrowers also must pay certain upfront fees including an origination fee, the mortgage insurance premium, the appraisal fee, and any closing costs needed to secure the loan. The maximum loan amount depends on: the value of

¹ <http://www.ncoa.org/enhance-economic-security/home-equity/reverse-mortgage-counseling.html>

the home, the expected average mortgage interest rate, and the age of the borrower.

As with all loans, reverse mortgage borrowers must pay interest on the mortgage. However, borrowers do not make direct interest payments. The loan interest payments are added to the loan principal over the life of the loan and must be repaid as part of the total loan balance. Thus, in determining the size of the total loan, interest payments are included in the calculation.

With respect to borrower age, older borrowers generally receive shorter term loans. As interest payments accrue over time, a shorter loan period means that interest costs will be lower and therefore the amount an individual can borrow will be larger. Hence, for a given home value, principal loan amounts differ based upon interest rates and the borrower's age.

There are four primary payout methods for reverse mortgages: a lump sum option; a monthly payment option in which borrowers receive a fixed monthly amount as long as one of the borrowers lives in the house; a monthly payment option in which borrowers receive a fixed amount for a fixed length of time; and a line of credit

option in which borrowers can withdraw funds up to a limit, during a pre-determined time period.

Tables 1 and 2 provide examples of how much a borrower can receive given the payout method selected, age, and home value.²

Table 2: Sample Payouts with Lump Sum Option

<i>Lump Sum Option (after fees)</i>				
	<i>Home Values</i>			
Age	\$100,000	\$200,000	\$300,000	\$400,000
65	\$48,576	\$99,911	\$152,247	\$204,583
70	\$51,976	\$106,711	\$162,447	\$218,183
75	\$55,776	\$114,311	\$173,847	\$233,383
80	\$60,076	\$122,911	\$186,747	\$250,583
85	\$64,276	\$131,311	\$199,347	\$267,383

Source: National Reverse Mortgage Lenders Association

Table 3: Sample Payouts with Line of Credit Option

<i>Line of Credit Option (available in first year, after fees)</i>				
	<i>Home Values</i>			
Age	\$100,000	\$200,000	\$300,000	\$400,000
65	\$26,896	\$56,551	\$87,207	\$117,863
70	\$28,936	\$60,631	\$93,327	\$126,063
75	\$31,216	\$65,191	\$100,167	\$135,143
80	\$33,789	\$70,103	\$107,331	\$144,559
85	\$35,885	\$74,252	\$113,519	\$152,786

Source: National Reverse Mortgage Lenders Association

Reverse Mortgage Considerations and Risks

Since the first reverse mortgage was originated, much has changed with regard to the oversight and regulation of these mortgages. Historically, borrowers were extracting a significant portion of their equity immediately and subsequently

²The payout amounts were calculated using a 'reverse mortgage calculator' form the National Reverse Mortgage Lenders Association. The interest rate used for the payout calculation is comprised of two components, an index and a margin. For the 'index', the calculator uses the Monthly Adjusted LIBOR, which is a common index used in

financial markets. The margin used for the calculator is 250 basis points (2.50%). The Ithaca, New York, zip code was used as the region for the payout calculation. The payout amounts were retrieved from the calculator on March 23, 2015.

defaulting on the loans. Default risk is a significant concern with regard to reverse mortgages. As recently as 2012, 10 percent of reverse mortgage holders were in default and at risk of foreclosure (Alderman, 2014). To combat this, Congress mandated that the Department of Housing and Urban Development (HUD) enact rules to limit the percentage of equity that could be initially obtained. In October of 2013, HUD instituted a HECM reform that made borrowing limits tighter while changing the upfront insurance cost structure to lower it for those with low initial balances (Nakajima & Telyukova, 2014). The reform also instituted mandatory credit checks for borrowers (without the debt-to-income requirement).

The total costs are another significant consideration when evaluating reverse mortgages. A reverse mortgage is a home equity loan that is not based upon household income. As a result, there are unique risks to the lender, and some of these risks are offset by charging higher origination and other fees at the outset. Moreover, the interest rates on reverse mortgages are often higher than the rates for more traditional home equity loans.³ Between the up-front fees on the reverse mortgage and the high interest

charges, a borrower could risk actually receiving much less money than anticipated.

Reverse mortgages do protect borrowers from falling housing prices. However, when housing prices are rising, homeowners run the risk that reverse mortgage refinancing costs curtail their ability to benefit from a rising real estate market.

As a general rule, borrowers should be cautious of the lump sum option unless the borrower requires a substantial amount of cash all at one time or the cash from the lump sum will be reinvested to gain a higher rate of return than the interest rate on the loan. Otherwise, borrowers risk being subject to behavioral biases that could negatively affect their financial situation. For example, *prediction bias*⁴ could lead individuals to underestimate their needs in the future and this combined with *hyperbolic discounting*⁵ could cause retirees to consume too much too soon out of a lump sum payment and be left with insufficient funds later in retirement (Brunhart, 2008).

The line of credit option is likely the lowest cost and the most equity protecting option. This option limits the amount of money borrowers can

³<http://money.usnews.com/money/blogs/on-retirement/2012/12/11/5-reasons-to-avoid-a-reverse-mortgage>

⁴Prediction bias is the tendency of individuals to make forecasts that are either too high or too low.

⁵This occurs when individuals change their preferences over time. Specifically, individuals have a relatively high discount rate over short and early periods but have a lower

rate on equally short but distant periods. This creates a conflict between today's preferences and those of the future, since in the future what was originally distant and not heavily discounted now becomes near and heavily discounted. For example, if someone decides today to start saving/stop spending next month but, when next month arrives, (s)he decides to start saving/stop spending after another month, then that person is hyperbolic discounting.

take at a single time. Since, the interest on the loan only accrues as the money is withdrawn, it generally incurs the least total interest expense. When used prudently, this option also is the way to extract the least amount of equity out of the home to increase the probability of being able to leave heirs with a significant equity stake.

Conclusions

Having limited liquid assets and the majority of household wealth in home equity usually indicates a household that may benefit from a reverse mortgage. Consistent with empirical evidence, Nakajima & Telyukova (2014) model that low-income, low-wealth, and poor-health households can gain the most from reverse mortgage products. However, all retirees should evaluate their financial options to determine if obtaining a reverse mortgage is optimal for their specific situation. While it is required by law to consult with a reverse mortgage counselor before purchasing the product, it is still important for households to actively evaluate which option is best with regard to costs, funds received, and risks.

References

- Alderman, Jason.** (2014). “Rule Changes Tighten Reverse Mortgage Eligibility.” *Financial Education, TheHuffingtonPost.com* http://www.huffingtonpost.com/jason-alderman/rule-changes-tighten-reve_b_4690539.html (Retrieved on 04 May 2015).
- Brunhart, Nicole.** (2008). *Individual financial planning for retirement: Empirical Insights from the affluent segment in Germany*. Heidelberg, Germany: Physica-Verlag.
- Cocco, João F., and Lopes, Paula.** (2014). “Reverse Mortgage Design.” (Working Paper, London School of Economics)
- Eschtruth, Andrew D., and Tran, Long C.** (2001). “A Primer on Reverse Mortgages.” *Just the Facts on Retirement Issues, No. 3*. (Research Report). Center for Retirement Research at Boston College.
- Guerin, Jessica.** (2012). “The History of the HECM: A Detailed Timeline.” *The Reverse Review*. 40-45.
- Mayer, Christopher J., and Simons, Katerina V.** (1994). “Reverse Mortgages and the Liquidity of Housing Wealth.” *Real Estate Economics*, 22 (2): 235-255.
- Merrill, Sally R., Finkel, Meryl, and Kutty, Nandinee K.** (1994). “Potential Beneficiaries from Reverse Mortgage Products for Elderly Homeowners: An Analysis of American Housing Survey Data.” *Real Estate Economics*, 22 (2): 257-299.
- Nakajima, Makoto, and Telyukova, Irina A.** (2014). “Reverse Mortgage Loans: A Quantitative Analysis.” (Working Paper, Federal Reserve Bank of Philadelphia)
- Shan, Hui.** (2011). “Reversing the Trend: The Recent Expansion of the Reverse Mortgage Market.” *Real Estate Economics*, 39 (4): 743-768.