

Reverse Mortgages, Refinancing, and Home Equity Lines of Credit

V. Sivarama Krishnan

College of Business Administration

University of Central Oklahoma

100 N. University Dr., Box 101

Edmond, OK 73034

(405) 974-2179, email – vkrishnan@uco.edu

Allen Arnold

University of Central Oklahoma

Presented at the Annual Conference of the
Academy of Financial Services
Anaheim, CA, October, 2009

Reverse Mortgages, Refinancing, and Home Equity Lines of Credit

Introduction

Reverse mortgages are among the few personal finance products that are gaining in popularity during the current period of financial crisis and angst. This can be attested to by a casual empirical observation of the frequency of television commercials and print advertisements as well as by the growth in the number of reverse mortgages sold (Morse (2009)). A reverse mortgage is also one of the most complex financial products sold to individuals with insurance- and option-like features not generally found in other mortgages and personal loan products. The most popular reverse mortgage is the one known as Home Equity Conversion Mortgage (HECM), which is guaranteed by the Federal Housing Administration (FHA). The FHA guarantees the performance of the lender and the borrower. The guarantee, of course, does not come free. The borrower pays a premium as part of the initial costs and a premium component is added on to the interest costs on a monthly basis. The popularity of HECMs is probably due to this guarantee and perhaps because of the increase in the so called “house-rich, cash-poor” households.

The HECM was introduced on a pilot basis in 1989 and became a formal FHA program in 1999. The program has grown very rapidly since 2000 when less than 7,000 mortgages were issued. The number was about 110,000 in 2008, reflecting a compound annual growth rate of over 40 percent. FHA had issued a total of 390,000 reverse mortgages through March 2008, and more than 50 percent of those were issued since early 2006. The U.S. Housing Market Conditions (USHMC, 2008), a periodic report on the housing market published by the research wing of the Department of Housing and Urban Development (HUD), in its first quarter edition,

suggests that 2008 may prove to be a turning point for reverse mortgages as more and more baby boomers will consider using their home equity to supplement their retirement income. The report cites a Harvard study which indicates that, from 2005 to 2009, the baby boomer population between ages of 60 and 69 will grow by 53 percent. This group might also change the demographics of HECM borrowers, which have been predominantly older and in the lower-to-middle income group. This group is also likely to be the one which could benefit from alternative approaches other than a HECM to tap into their home equity.

A reverse mortgage is one of several possible ways of tapping into one's home equity. More specifically, a homeowner can refinance or use a traditional *forward* mortgage and immediately receive a substantial amount of usable funds. Another alternative is to use a traditional home equity line of credit (HELOC) and access it as and when funds are needed. This is very similar to one form of HECM where the borrower gets a line of credit. USHMC (2008) reports that about 75 percent of HECM borrowers opt for a line of credit rather than a monthly payment. The major difference between a HELOC and a HECM line of credit is that the latter does not require any payment of interest or repayment till the borrower's death, the sale of the house, or if the borrower ceases to live in it for whatever reason. However, the initial available funds through either refinancing or a HELOC are much larger and the transaction costs are likely to be much lower than those available through a HECM. Accordingly, under some circumstances, a reverse mortgage may not be the best or lowest cost option to tap into one's home equity.

This paper looks at traditional forward mortgages and HELOCs as viable, and at least in some cases, desirable alternatives to a reverse mortgage, and analyzes the circumstances under which approaches other than a reverse mortgage might be preferable. The paper is organized as

follows: The first section explains the salient features of HECM, the most prominent and dominant form of reverse mortgages as currently available in the market. The following section offers a brief review of extant research on reverse mortgages. This is followed by a comparison of a HECM with the traditional forward mortgage and a HELOC, and conditions under which one of the latter might be superior to an HECM. The final section summarizes the paper's findings and conclusions.

Reverse Mortgages – An Overview

A reverse mortgage, like a traditional mortgage (labeled a *forward* mortgage), is a loan secured by a home or other real estate property. There are several well written primers on reverse mortgages. Scholen (1996) is considered a good handbook for anyone interested in using a reverse mortgage as a source of supplemental income. The American Association of Retired Persons (AARP) has produced an excellent and informative handout explaining the features of this very complex financial product (AARP, 2008). There are two features of a reverse mortgage that are particularly attractive to elderly homeowners looking to supplement their retirement income. A reverse mortgage does not require any periodic payment of principal or interest by the borrower and the lender has no recourse to any other assets of the borrower. The FHA-guaranteed HECM dominates the reverse mortgage market with a reported market share of over 85 percent (USHMC, 2008). In order to qualify for an HECM, the borrower must be 62 years or older and own the house outright, or have a mortgage balance that is relatively small. The FHA sets a maximum limit that can be drawn by the borrower based on the appraised value of the home (or the maximum permitted value of \$625,000, whichever is lower), the age of the borrower, and the current applicable interest rate. The applicable rate is based on either the London Interbank Offer Rate (LIBOR) or the 10-year U.S. treasury rate. The lender is allowed to

charge a margin over the base rate. The current allowed margin for the 10-year treasury rate is 1.5 percent for loans that are charged interest on a monthly-adjusted basis and 2.1 percent for the annually adjusted rate. In the past, HECMs were all adjustable rate mortgages. FHA now allows fixed rate mortgages also. The borrower pays the usual closing costs, which would be comparable to a traditional forward mortgage. In addition to the closing costs, the borrower is also charged a 2 percent of the appraised value (or the HECM limit, whichever is lower) premium to cover the cost of the FHA guarantee. The borrower also pays an annual premium of 0.5 percent of the outstanding mortgage balance. The interest and the insurance premium accrue on a monthly basis. In addition, the borrower may also be levied a monthly service charge of \$30 (annually adjusted mortgages) or \$35 (monthly adjusted mortgage rates). All these charges can be financed; however, that option would lower the amount of available funds.

The limit set by FHA, known as the *principal limit*, is obtained by multiplying the appraised value, or the applicable lower limit, by the principal limit factor. In essence, this limit is the present value of the appraised value (or applicable limit, if lower) based on the interest rate and the age of the borrower. Table 1 below gives some examples of the principal limit factor.

Table 1: Principal Limit Factor

Interest rate	Age = 65	Age = 75	Age = 85
7%	0.489	0.609	0.738
8.5%	0.369	0.503	0.660
10%	0.280	0.416	0.589
Source: USHMC (2008)			

This would mean that a 65-year old homeowner's house with an appraised value of \$200,000, can borrow a lump sum of $\$200,000 \times 0.489 = \$97,800$. This amount will be reduced

if the closing costs and the insurance premium are financed. The funds can be drawn in one of five ways:

Tenure: This provides a fixed monthly payment as long as one of the borrower lives.

Term: This involves a fixed monthly payment for a specified term.

Line of Credit: Payments as desired by the borrower till the line of credit is exhausted.

Modified Tenure: This is a combination of line of credit and tenure.

Modified Term: This involves a combination of line of credit and term.

The borrower has the flexibility to change the payment method any time for a fee of \$20.

The FHA has offered insured HECMs since 1990. The quantity of insured cases has grown from 157 in the first year to over 107,000 in 2007. The average age of the borrower varied between 73 and 77 and the average property value has risen from \$108,700 in 1990 to \$261,900 in 2007.

A Brief Literature Review

A literature search for works related to reverse mortgages turns up a number of trade and practitioner articles that mostly relate to current trends and practices in the mortgage industry. Morse (2009) is a typical example. Analytical or empirical works were almost all doctoral dissertations. McConaghy (2004) and Cramer (1994) are good examples of recent dissertations that deal with issues related to reverse mortgages. Tate (1987) looked at the impact of reverse mortgages on reducing the poverty of the homeowner. He developed cash flow models to evaluate the benefits from the reverse mortgage with life tenure compared to a reverse mortgage without life tenure. The benefits are modeled as investment returns and the model applied to data from Orlando Standard Metropolitan Statistical Area. Tate found that reverse mortgage with life tenure premium provided a higher return than the one without life tenure. In another pre-

HECM dissertation using simulation, Gasper (1984) found reverse mortgages would enable a significant reduction in poverty for the borrowers. Cramer (1994) used simulation to evaluate sale and leaseback and sale of a remainder as alternatives to FHA insured reverse mortgages. Reverse mortgages were found to be better products for the borrower. Cramer did not consider HELOCs or a forward mortgage as possible alternatives to reverse mortgages.

Leviton (1998) used interviews with elderly, low income homeowners to analyze their process of decision making related to housing, financial options, and reverse mortgages. She studied homeowners that were counseled by a Massachusetts' non-profit agency and found that a reverse mortgage was seen as a last resort, and most homeowners desired to leave a financial inheritance to their family. Knapp (2001) found family ties and migration patterns in the community affected the demand for HECMs.

McConaghy (2004) provides a very good overview of the HECM program since its inception as a pilot program in 1989. He used the HECM data from 1989 to 1999 for a detailed empirical analysis to identify borrower characteristics associated with repayment patterns. McConaghy also compared HECM repayment rates with repayment rates among non-HECM elderly borrowers and analyzed whether refinancing with a HECM made sense. While refinancing would have increased borrowing amounts for more than half of the borrowers, it also entailed significant transaction costs and led to loss of equity. McConaghy found that over 60 percent of HECMs were rapid, in less than 10 years, and the repayment for the HECM population was faster than the non-HECM sample studied. This is a surprising finding and has implications to the analysis done in this paper.

Forward Mortgages and HELOCs as Alternatives to Reverse Mortgages

USHMC (2008) strongly suggested that baby boomers entering their mid-sixties could be a huge potential market for HECMs as a potential strategy to tap into their home equity to supplement their retirement income. Baby boomers do not quite fit the profile of the current predominant HECM borrower – typically single females or married couples in their 70s. We explore the possibility that at least in some cases, a traditional forward mortgage or a HELOC can be viable alternatives.

Forward Mortgage:

Typically, a forward mortgage is not considered as an alternative to a reverse mortgage because it requires amortizing monthly payments that would become a substantial drain on the finances of a retired person. Furthermore, a forward mortgage would require the borrower to satisfy rigorous lending standards in order to even qualify for the loan. It may, however, be possible for a person with retirement incomes from sources such as pension and 401(k) assets to qualify for a loan. Such a qualifying homeowner could borrow a much higher percentage of the house value than would be available through a reverse mortgage. This would infer that if the homeowner's need for supplemental cash or income is relatively short-term, then a forward mortgage can be an alternative that costs less. An example is described below.

Home Equity Line of Credit (HELOC):

A HELOC, or a home equity loan, is also generally not considered as an alternative to a reverse mortgage for the same reasons as mentioned above in the case of a forward mortgage. A HELOC, though, has less cash flow requirements because a typical HELOC is structured with required payments of interest only. A HELOC also has significantly lower transaction costs and a homeowner with an excellent credit rating and interested in borrowing 70 percent or less of the

home value can also get very competitive interest rates. It is also a very flexible source of funding.

Table 2 shows details of three possible ways of tapping into one's home equity. Property value is assumed at \$200,000. We compare a 30-year traditional forward mortgage, a HELOC, and a HECM for a hypothetical borrower with a very good rating. The transaction costs and interest rate assumptions are based on current market rates and are listed below.

Loan amounts:

HECM: = \$91,089

AARP calculator - http://rnc.ibisreverse.com/rnc_pages/rnc_aarp/aarp_estimates.aspx - gives a maximum line of credit amount of \$81,089 for a 65 year old homeowner with property value of \$200,000 in the Midwestern zip code of 73003. This amount is after subtracting the transaction costs from the principal limit allowed. The amount is for an interest rate of 3.55%, the monthly LIBOR plus the lender's margin plus mortgage insurance premium.

Forward Mortgage: 80 percent of property value = \$160,000
30-year fixed rate mortgage @ 5.25%; Monthly payment = \$883.53

HELOC: 70 percent of the property value = \$140,000
Interest-only line of credit @ Prime rate = 3.25%; Monthly payment = \$379.17

Transaction costs:

HECM:

Closing costs	= \$2,000
Origination costs @ 2 % of property value	= \$4,000
Mortgage initial insurance premium (2% of property value)	= <u>\$4,000</u>
Total	= \$10,000

Note: Origination costs and mortgage insurance premium are at FHA-required set limits.

Forward Mortgage:

Closing costs	= \$2,000
Origination costs @ 2 % of loan	= <u>\$3,200</u>
Total	= \$5,200

HELOC:

Closing costs	= \$2,000
Origination costs @ 2 % of loan	= <u>\$2,800</u>
Total	= \$4,800

Table 2

Particulars	HECM	FORWARD MORTGAGE	HELOC
Maximum funds available	\$91,089	\$160,000	\$140,000
Less Transaction costs	\$10,000	\$5,200	\$4,800
Net usable funds	\$81,089	\$154,800	\$135,200
Excess funds available over HECM	0	\$73,711	\$54,111
Interest rate	3.55%	5.25%	3.25%
Monthly payment	\$30 [*]	\$883.53	\$379.17
Break-even term ^{**}		83.4 months	142.7 months
Loan balance at breakeven [@]	\$120,135 (83) \$144,940 (142)	\$141,682 (83 months)	\$140,000

* HECM has a monthly service charge of \$30.

** The Break-even term is calculated as the number of months for which the excess funds available over the HECM net funds can be used to make the monthly payments.

@ HECM loan balance is calculated using monthly compounding for 83 months and 142 months.

The table clearly shows that under the given set of assumptions, the HELOC has better cash flows. The main advantage that a HECM has over a HELOC is that it is a no-recourse loan and has no stringent qualifying income conditions that the borrower has to satisfy. On the other hand, the fact that many HECM borrowers do not keep the loan beyond 10 years (McConaghy, 2004) suggests that a HECM may be a costly option unless one is sure to utilize it for an extended period of time.

Our analysis raises interesting possibilities for individuals looking at retirement planning and potential sources of income during retirement. Lenders evaluating a traditional forward mortgage or even a HELOC typically look at the borrower's income and often require stringent standards to qualify for these loans. A retired individual may find it difficult to qualify for these loans. Therefore, one will be in a much better position to qualify for these loans during the last years of pre-retirement period. Thus it is suggested that anyone considering tapping into her/his

home equity during retirement may want to consider a HELOC or even a forward mortgage *prior* to retirement.

Conclusion

This paper looks at traditional forward mortgages and home equity lines of credit (HELOC) as possible alternatives to a home equity conversion mortgage (HECM) for tapping into one's home equity as a source of income. While the home equity conversion mortgage enjoys the advantages of government guaranteed performance, no-recourse funding, and of not requiring any qualifying credit or income standards, it also has high transaction costs. The amount of funds available is also significantly lower compared to the other alternatives. We developed an example, based on realistic numbers, to show that under certain circumstances a forward mortgage or a home equity line of credit might be a very competitive alternative to a home equity conversion mortgage. The main difficulty with the forward mortgage and home equity lines of credit would be the required higher qualifying standards. This problem might be overcome if the homeowner plans ahead and arranges the credit line or forward mortgage *before* retirement.

In researching data for this paper, the authors encountered substantial difficulty in locating empirical studies on this topic and in obtaining accurate information from purveyors of reverse mortgages. Relating to the second issue, the authors contacted over 12 reverse mortgage vendors and none was willing to provide details without verification of an attained age of 65 and a willingness to subject to a sales contact. This was quite disturbing given that many elderly homeowners may be unprepared to deal with aggressive sales techniques. Regarding the first difficulty, there are few dissertations and peer-reviewed studies focused on reverse mortgages.

This does not automatically confirm a gap in the knowledge base; however the massive increase in HECMs being utilized since the early 1990s and the growing number of baby boomers that may not be financially prepared for retirement does indicate a significant need for more empirical studies in this specific area.

References

AARP, 2008. "Loans: Borrowing Reverse Mortgage against Your Home."

Cramer, Lowell James. 1994. "An After Tax Economic Analysis of Home Equity Conversion for the Elderly." Ph.D. Dissertation, Florida International University.

Gasper, Juli-Ann. 1984. "Asset Depletion and Cash Flow Increase Effects of Reverse Mortgage Use by Elderly Households." Ph.D. Dissertation, the University Of Nebraska – Lincoln.

Knapp, Kenneth Allen. 2001. "The Influence Of Family And Community Ties On The Demand For Home Equity Conversion Mortgages." Ph.D. Dissertation, City University of New York

Leviton, Roberta. 1999. "Elderly Decision-Making about Reverse Mortgages" Ph.D. Dissertation, Brandeis University, the Florence Heller Graduate School for Advanced Studies in Social Welfare.

McConaghy, Richard W., 2004. "Mortality, Move-out and Refinancing as Factors in HECM Reverse Mortgage Payoffs." Ph.D. Dissertation, University Of Massachusetts Boston.

Morse, Neil J, 2009. "Future of Reverse." Mortgage Banking, January, 48-52.

Scholen, Ken, 1996. *Your Retirement Net Egg: A Consumer Guide to Reverse Mortgages*, 2nd Edition, National Center for Home Equity Conversion Press.

Tate, William H. 1987. "Reverse Mortgages for the Low-Income Elderly: An Economic Analysis." Ph.D. Dissertation, University Of Florida.

USHMC, 2008. "A Turning Point in the History of HUD's Home Equity Conversion Mortgage Program" Quarter 1, 5-13.