# Innovations in Retirement Financing

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Chapter 11

# Turning Assets into Cash: Problems and Prospects in the Reverse Mortgage Market

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Academic writers have long expressed enthusiasm regarding the potential of the reverse mortgage market to help the elderly turn housing equity into cash. Yet this market is tiny in the United States, and virtually nonexistent in other developed nations. This chapter explores some of the economic forces that may help to explain the gap between the current market and its theoretical potential, including transactions costs, moral hazard, and consumer uncertainty about future preferences. In addition we evaluate psychological forces that may help explain lack of enthusiasm among homeowners for these products. We also focus attention on impediments to market development attributable to the legal, regulatory, and tax systems. It is likely that similar inertial forces may constrain the supply of a far broader class of innovative financial contracts. These include equity insurance products proposed by Case et al. (1993) and equity participation products proposed by Caplin et al. (1997). These are all examples of schemes in which there is some shifting of risk and return from the homeowner to the broader financial community. We outline some of the policy measures that may be required if policymakers wish to encourage development of any or all of these markets.

## The Current Status of the Reverse Annuity Market

In the United States, reverse mortgages are the most important product in the market for home equity conversion. Reverse mortgages have advantages over more standard home equity loans, since many elderly households would fail to qualify for the latter due to low income. The reverse mortgage never requires a homeowner to make interest payments, and only becomes due when the owner moves out of the house or dies.

The most important and long-lived reverse mortgage currently on the market is the Home Equity Conversion Mortgage (HECM) offered by the Department of Housing and Urban Development (HUD). This has been available since 1989, when Congress authorized a HUD pilot program with 2,500 reverse mortgages. Authorization was increased to 25,000 in the early 1990s, and it was increased again in 1996.

Federal involvement goes far beyond authorizing the program, since it includes an intricate set of cross-subsidies. The Federal National Mortgage Association (Fannie Mae) agreed at the outset to purchase HECM loans originated by approved lenders, subject to some minor conditions. In addition, HUD has offered a wide array of insurance guarantees on HECM loans at a hard-to-beat price. Given the potential costs of these guarantees, HUD retains strong controls on the various lenders who have been approved to originate these mortgages. In addition, HUD insists that counseling be provided to borrowers who apply for HECM loans.

In addition to the HECM, a second important type of reverse mortgage is the HomeKeeper, offered by Fannie Mae since 1995. While this product is still primarily a creature of federal policy, there have been private companies offering reverse mortgages. The Financial Freedom Senior Funding Corporation not only offers its own proprietary reverse mortgage, but has also successfully issued the first secondary market product in the history of the reverse mortgage market. In 1999, Lehman Brothers issued $317 million in bonds against Financial Freedom's portfolio of reverse mortgages. Not surprisingly, these private sector products are designed to appeal to higher wealth home owners who are not well catered to in the federal programs.

The various reverse mortgage products have similar structural features. When a homeowner meets the appropriate criteria, the financial institution offers a loan that can be taken as a lump sum, as an income stream, or as a line of credit, with various degrees of flexibility permitted between methods of borrowing. The income stream can be taken either for a fixed term or as an annuity. There are various costs involved in taking out the loans, which can be financed in part from loan proceeds. The amount of money that can be borrowed depends on the age of the borrower, the value of the house, and some interest rate variables. We describe the HECM in greater detail to clarify the fundamental economic forces at work.

In order to qualify for a HECM loan, a household head must be age 62 or older, and either own his home free and clear, or at least be able to pay off all remaining debt with the proceeds of the loan. There are additional requirements that relate to the condition of the property at the time of purchase, and also to the need to undergo some counseling on the nature of the product. Once the household qualifies, an initial "principal limit factor" is set, determining the maximum loan available to the borrower. As time passes, the limit factor grows according to a formula based on interest rates and certain ongoing insurance costs.

The principal limit factor on a new loan is determined by a fixed function that depends only on the age of the youngest borrower, and two additional numbers that are themselves determined by reasonably simple algorithms. The first number is the "adjusted property value" or maximum claim amount, which is the minimum of the appraised value of the house and the maximum loan in the FHA 203(b) program. The second number is the "expected average mortgage interest rate," which historically has been between 1.5 and 1.7 percent above the one-year Treasury bond rate. More generally, interest charges for HECM borrowers are somewhat intricate. The interest costs on outstanding balances follow a variable rate pattern, with limits both on the rate at which the interest costs can change within a year and over the life of the product. The expected average mortgage interest rate used in the calculation of the initial principal limit factor is generally higher than the contemporaneous adjustable rate of interest, in an effort to take account of the long term of the loan. A final complication is that the term of the loan itself may be impacted by future interest rates, since it may be advantageous to refinance a HECM should the rate of interest drop significantly.

The single most important determinant of the principal limit factor is the age of the youngest borrower.[1] For a house with an appraised value of $150,000 and with expected interest rate of 8 percent per annum, the initial principal limit factor increases from roughly $50,000 at age 65, to $70,000 at age 75, to $105,000 at age 90 (Scholen 1996). At an interest rate of 9 percent per annum, the corresponding numbers are $40,000 at age 65, $60,000 at age 75, and $100,000 at age 90. As the loan ages, the principal limit factor grows at a rate that exceeds the expected interest rate by 0.5 percent. The additional 0.5 percent reflects a monthly insurance fee that is charged on HECM loan balances. This monthly fee is in addition to an up-front insurance fee amounting to two percent of the adjusted property value.

This premium serves in part to provide a guarantee to the borrower against lender default, but in fact this risk is negligible in the current market, since Fannie Mae owns most of the loans. The more serious risk that HUD bears concerns the growth in the principal limit factor over time. There is "crossover risk," which is realized when the principal limit factor exceeds around 90 percent of the house value. When one bears in mind transactions costs, the homeowner is left with no equity in the house. From this point on, it is clear that the lender might be unable to recover the full amount owed. To prevent this risk from discouraging lenders, HUD allows them to assign a mortgage to the FHA when the balance has risen to 98 percent of the maximum claim amount. Following assignment, the leader files an insurance claim for an amount equal to the mortgage balance and has no further obligations. The Department continues to make payments that are owed the borrower, and it accepts full responsibility in case of loss.

In addition to insurance costs, there are a wide variety of other tax and

transaction costs involved in taking out a HECM. In its report to Congress evaluating the HECM insurance program HUD found that actual transactions costs had averaged roughly $4,500 per loan, excluding insurance costs. These numbers are very high when counted against the median adjusted property value of $97,000, and even more so against the median initial principal limits of $47,000. If we include the two percent up front insurance fee, the average cost of taking out a reverse mortgage amounted to some $6,500, or almost 14 percent of the initial loan.

In addition to characterizing the various transactions costs, the 1995 HUD report also detailed the basic economic characteristics of a large random sample of the early users of the product. The findings are as one would expect in most respects. The median age of HECM borrowers at closing was 76, well above the average age of all eligible households. The median property value was $102,000, as opposed to $70,418 for all elderly homeowners. Yet median income was 44 percent below than the median of all elderly homeowners, and HECM borrowers got more than 78 percent of their total income from Social Security payments, as opposed to 38 percent for the broader pool of older homeowners. Finally HECM borrowers generally had few children, with more than 75 percent reporting no children at all.

## The Reverse Mortgage Market: Estimating Market Potential

Five years into the pilot program in July 1994, HUD had issued only 7,994 HECM loans, despite being authorized for up to 25,000 (USHUD 1995). The numbers have recently increased more rapidly, but in 1998 total issuance was still short of 25,000. While precise numbers are hard to find, it seems safe to say that when one adds up all reverse mortgages of all types issued in the United States to date, a reasonable "guesstimate" would be in the order of 50,000.

These small numbers stand in strong contrast to most estimates of market potential. Of course an important preliminary step in analyzing the market is to identify any powerful reasons that elderly households might have to eschew home equity conversion. Two of the strongest reasons for avoiding the market altogether may be a desire to move from the current home, and a powerful bequest motive.

For an elderly household planning to move in the near future, a reverse mortgage would seem to be a very bad idea, since the transactions cost alone would take a huge bite out of the housing equity. However, for a household planning to stay put, the calculus is very different. One may gain some insights on market potential simply by studying the actual and anticipated patterns of mobility for older homeowners. The most striking finding in this respect is the profound desire of elderly homeowners not to move (Venti and Wise, this volume). Roughly 80 percent of households with the head of

household aged 65 or higher own their own homes, and the vast majority have lived in the home long enough to pay off their mortgage fully. Having lived in their current homes for a very long time, such households respond to survey questions on the subject by stating a strong preference for staying put for the rest of their lives.

A second possible motivation for avoiding the reverse mortgage market is a strong bequest motive. Yet there is evidence that for households not among the super rich, the bequest motive is far from powerful. Sheiner and Weil (1992) find that savings respond little to increases in the value of housing equity, as they would if this equity was intended to satisfy a bequest motive. They estimate that 42 percent of households will leave behind a house when the last member dies. For most of these the house will be owned free and clear, and there will be few if any additional assets left in a bequest. What a miracle it would be if the value of this house (which is at any rate very hard to estimate ex ante) was precisely the optimal value of the bequest! No wonder such bequests are typically referred to as "involuntary."

For households who intend to stay in their current home for life, yet do not have an overwhelmingly strong bequest motive, the reverse mortgage seems like a potentially important product. Even if one limited attention to the most obvious category of potential borrowers, elderly homeowners who are house rich, cash poor, and have no children, the numbers run well into the millions. Unless they take out a reverse mortgage, these households will die leaving their homes as an essentially unintended bequest. When one adds back in the other elderly households for whom the product may also be desirable, market possibilities seem robust.

The first serious attempt to clarify market potential was offered by Venti and Wise (1991) using SIPP data. They provided detailed summaries of the wealth composition of the elderly and confirmed that many elderly households live primarily on pension income. Then also found that housing equity is the only asset available to potentially increase their consumption. To estimate the quantitative significance of housing equity, they annuitized the entire net housing wealth with an actuarially fair life tenure reverse mortgage, and estimated the extent to which this could increase the household's annual income (or consumption). They estimated the median increase in annual income from such an annuity at around 10 percent.

Though these authors concluded that a 10 percent income increase is surprisingly low, their numbers are a long way from suggesting that the market has no potential. Indeed Rasmussen et al. (1995) use essentially the same procedure to show that even when attention is restricted to households 69 or older with income less than $30,000, there are 3 million who would gain at least 25 percent from the reverse annuity mortgage. The potential for the reverse mortgage to raise consumption at the lower end of the income spectrum is noteworthy. Housing equity is distributed in a far more equitable manner across households than are the more liquid forms

of financial wealth. Using data from the Health and Retirement Study, Mitchell and Moore (1998) show that the median net financial wealth of the highest income quintile is 55 times as high as that of the lowest quintile, while the equivalent ratio for housing wealth is 7.4. The importance of housing equity for minority households is also proportionately far greater than it is for white households.

In a second study, Venti and Wise (1990) posit that if there were a large frustrated desire to reduce housing equity, then we should expect to see a large number of older households moving to smaller homes. Empirically, however, they find that the actual number of movers is relatively low, and among those who do move, as many increase housing equity as decrease it. While this is an intriguing finding, it is not clear to me that it suggests little interest in home equity conversion products. After all, some elderly households who buy more valuable houses are likely to be doing so to increase housing consumption rather than housing equity. Furthermore, Sheiner and Weil (1992) note that when one looks at the "older" old, there is indeed a relatively quick decline in housing equity at the end of life. They also provide evidence that much of the housing equity released in a house sale gets used almost immediately for consumption purposes; see also Megbolugbe et al. (1997) and Venti and Wise, this volume. This observation led Skinner (1996) to hypothesize that the most important use of reverse mortgages may be to help release funds for emergency purposes, for instance if there is a health problem. Housing equity maybe a potentially important form of precautionary saving, but tends to be tapped when bad contingencies arise.

There is a second reason to downplay the significance of the early Venti and Wise (1990) findings for the home equity conversion market. Those who move to more valuable houses late in life may not be typical elderly households. Either they were wealthy enough to buy their house free and clear, or they had incomes high enough to qualify for a mortgage. It is plausible that such households would not be interested in reverse mortgages. On the other side, anyone without heirs, who dies without a will, and who leaves a house owned free and clear to be sold at probate would seem to have suffered unnecessarily low consumption, unless housing equity is enjoyed in and of itself.

## Some Market Imperfections

Other explanations for why the market for home equity conversion is so small pertain to high transactions costs and severe moral hazard problems. Another set of impediments may arise from household uncertainty about future medical expenses, and the connection between medical expenses and the desire to move to a new home. Finally, we consider the potential impact of psychological issues, such as the possibility that older households are

simply unwilling to take on debt of any kind except in the case of dire emergencies. Institutional barriers to market development are explored next.

## Transactions Costs and Moral Hazard

The most obvious impediment to market development is the high level of transactions costs. In the U.S. market, a 75-year-old could end up paying roughly $6,500 in fees to borrow a net amount of no more than $41,000 up front on a home worth $100,000. This is rather a disappointing payoff, and certainly the mere act of taking out this loan produces a significant reduction in net worth. Given these high costs, it may not be surprising that many households would leave what might otherwise be termed involuntary bequests. If the ideal bequest were somewhere in the $50,000 to $75,000 range, the household may be better off not taking out a reverse mortgage, consuming somewhat less than they would otherwise desire, and leaving a somewhat excessive bequest, rather than paying the costs of entering this market.

A second economic problem with even greater significance may be moral hazard in home maintenance and in home sale. Those who apply for HECM loans are generally very old, poor, and living in homes that are more valuable than they can afford to maintain, at least according to standard loan qualification criteria. They may also anticipate significant health problems during the life of the loan. These households would seem to be prime candidates to let their homes fall into serious disrepair. Unfortunately, in the reverse mortgage market, an initial failure to maintain the home properly can feed on itself, creating ever worse incentives for maintenance and a growing problem for the lender. Deterioration in the property value combined with the inevitable increase in the size of the outstanding loan balance soon leave the homeowner with no financial stake in the house. The loan quickly hits a crossover point, and 100 percent of any incremental damage or depreciation to the house is borne by HUD. In practice, the contracts contain a provision that declares that failure to maintain the house constitutes a default on the loan. But will HUD try to enforce this clause? Even if HUD should be so bold as to try to enforce the contract, would the courts let them? As Rosenbaum et al. argue:

> The contract provisions by which a reverse mortgage lender seeks to bind seniors to home maintenance liability fly in the face of reality. Enforcing such covenants may ultimately be more bitter and expensive than they are worth, and in the circumstances, there is no assurance that they can be enforced. . . . Will a court find that a ninety year old widow, who years ago borrowed the last of her home equity, must install a new twenty-year roof? . . . The responsibility of property-management and maintenance cannot be displaced upon home owners as if they were ordinary borrowers in the prime of life, with good incomes and growing equity. . . . They are increasingly frail, needing financial assistance and spending down that home-equity that would otherwise be their incentive to maintain the property. (1995: 22–23)

Moral hazard problems extend well beyond the maintenance phase, as Rosembaum et al. (1995) point out. It is predictable that in cases in which the crossover point is passed before the homeowner dies, the sale will wind up being handled either by relatives who have no stake in the sale price, or by the probate court. It is well known that probate sales bring lower prices than common home sale transactions, because of various problems and restrictions such as sealed bids, statements of financial qualification, as-is terms, court appearances, and delays. In addition, the court is exempt from statutory disclosures required of other sellers, such as reporting known defects, the history of improvements, and pending events or conditions. Sale by a relative could be even worse than a probate sale, due to a combination of laziness and corruption (e.g. asking for some reciprocal economic gain when selling the house at a bargain-basement price). If the reverse mortgage lender sought to gain control of the sale process, the first step would be a costly and lengthy foreclosure proceeding.

Confirmation that these problems are beginning to rear their heads may be found in a memorandum of July 24, 1998, submitted to HUD from the Santa Ana Homeownership Center ⟨www.hud.gov:80/hoc/sna/snathc02.html⟩:

> The purpose of this memorandum is to keep you abreast of a counseling issue concerning the Home Equity Conversion Mortgage. Currently we are experiencing an increase in the number of elderly home owners with a Home Equity Conversion Mortgage that are unable to pay their taxes and insurance or maintain the condition of their property. Failure to meet these requirements is a default under the terms of the mortgage agreement. The HUD lender is required to notify HUD of this default. We must make the home owner aware that they may consult with a HUD-Approved Counselor. During this consultation, the counselor may assist the home owner in submitting information to HUD or the lender that may assist all parties in reaching a resolution.

The memorandum goes on to provide five suggestions on counseling the homeowner on how to recover good standing. Aggressive enforcement of the default clause does not appear to be in the picture. HUD's upbeat assessment to Congress on the sufficiency of the HECM insurance premium was written a mere six years after the program was initiated, and it seems premature.

## Healthcare, Mobility, and Precautionary Savings

One danger for the borrower in taking out a reverse mortgage is that it may interact very badly with a later health problem. There are several aspects to this interaction. The first is that having spent down equity at an earlier stage, the household will enter the period of sickness in a somewhat worse net asset position.

A second and more significant issue concerns the interaction between

health status and living arrangements. When an elderly person develops a significant health problem, it may be necessary to leave the home for some time for treatment and convalescence. At such points, there is also an incentive to reconsider the optimal living arrangement (Feinstein 1996). For many who are sick, it may be a good idea to move into more appropriate transitional housing. If some of their housing equity has been depleted, however, it may prove impossible to raise enough capital from selling the existing home to make such a move possible.

Things may be even worse for elderly who develop major health problems but nevertheless have a preference for staying in their current homes. Technically, such households are very likely to default on the terms of the reverse mortgage, either by being kept in convalescence out of the home for too long, or by falling behind on taxes or house repairs. At this point, the lender has the right to force sale of the house. The risk of being evicted from the home after an unfortunate medical stay may rationally deter many households from considering a reverse mortgage.

## The Complex Psychology of Reverse Mortgages

It is often suggested that many elderly households are simply reluctant to take on debt, having spent so much of their lives trying to pay off their initial mortgage. Whatever the psychological origins of this discomfort, it turns out to have a basis in reality in the case of the reverse mortgage. After all, the reverse mortgage does involve a commitment to live in the house, and any prolonged period in convalescence would place the household at genuine risk of losing the right to live in the house. The mere hint of this aversive future possibility may be sufficiently anxiety inducing to discourage all but the most desperate.

Other possible dangers of the reverse mortgage market for elderly households have recently been highlighted not only by such consumer advocates as the Consumers Union of the United States (Wong and Paz-Garcia 1999) and the AARP, but also by HUD itself. There are cases of elderly households being contacted by "home repair" companies offering to fix up problems with no cash down, if only the owner will sign the following small document. The document turns out to be a reverse mortgage, in which the contractor charges exorbitant fees.

Even more serious is the possibility that fear of being "suckered" into a bad deal, or even fear of being evicted from one's home after sickness, influence the desire to avoid thinking about a reverse mortgage. As such, it may be part of a broader pattern in which psychological factors play a role in limiting the demand for reverse mortgages. Indeed there is evidence of inertia in many decisions that are important to the quality of life in later years. Lusardi (1999) shows that many households save very little for retirement and report not having given retirement much thought. To back up

their claims, many of them report being unaware even of the level of their social security benefits.

O'Donoghue and Rabin (1999) characterize this form of "avoidant" behavior as following from a more general tendency to excessive procrastination when actions involve current costs and future benefits. Starting from very different theoretical viewpoints, the work of Becker and Mulligan (1997) and Caplin and Leahy (1997) also suggests that households may be especially unwilling to spend current resources to prepare for possible future unpleasant events. This means that aversive future events could be highly discounted from the current perspective. At the most extreme level, a low level of consumption in a house owned free and clear may be preferable to a somewhat higher level in a house on which there is debt, with the corresponding increase in insecurity.

Finally, we note that the counseling programs, while intended to provide reassurance, may themselves be enough to discourage many households. After all, the mere presence of the counseling program makes potential applicants aware that there are complexities to the product that may possibly come back to haunt them at a later date. In the thin market that currently exists, most households may not know anyone who has a reverse mortgage, so that there is no background of personal knowledge to help allay worries about being evicted by an angry creditor. If someone known to them took out the product for strong reasons of direct motivation, and if their use appears successful, then neighbors may imitate. In this way, one may get a form of gradual takeoff in consumption, in just the same manner that one does in stories of technological diffusion. There may be a great deal of social learning and imitation required for the market to grow.

Combining these various mechanisms produces a vision in which many may be disinterested in reverse mortgages, at least until they appear to be the answer to a pressing current problem. In this sense, the various psychological theories may provide further backing for the hypothesis that reverse mortgages may be most important in providing funding for emergencies, rather than for funding day-to-day consumption.

## A Question of Supply

Powerful as they may seem, it is unlikely that the economic and psychological forces outlined above are sufficient to explain the low level of use of home equity conversion products in the U.S. market. The most straightforward supply-side factor that contributes to the low level of use of reverse mortgage is the relatively low fee paid by HUD to institutions that issue HECMs. These fees are insufficiently high to make aggressive marketing of the HECM a worthwhile activity for most banks, helping to keep the program small.

Beyond this, the various market impediments outlined above such as

transactions costs are largely endogenous. In a thick market, transactions would be lower. Also, a significant portion of these costs takes the form of taxes, and these might be reduced if there was political pressure in this direction coming from either side of the market. With respect to issues of moral hazard, these may be far less significant in a world with contracts in which the lender had the incentive to carry out important tasks of maintenance. Similarly, healthcare concerns at the end of life could in principle be handled by richer insurance contracts.

A larger point is that in a mature market, contracts would contain clauses that could reduce most of the incentive problems and many of the psychological problems to manageable proportions. Combining this with the strong incentives for some initial homeowners to use the products at time of crisis, and the general spread of comfort that this history could induce, one can imagine the market operating far closer to its theoretical potential than is currently the case. In the end, there is simply an inefficiency involved in so many individuals dying with assets in excess of their desired bequests. The apparent lack of private sector interest in supplying products to exploit this efficiency will remain mysterious, at least until we have explored the institutional environment.

## The Fiscal, Legal, and Regulatory Environments

In addition to the economic and psychological forces that may impede the development of the market, there are institutional impediments. The home equity conversion market sits at the intersection of many different, confusing, incomplete regulatory systems. The incompleteness of these systems impacts both the demand and the supply side of the markets, as is outlined next.

### A Few Lessons from History

Economists are not the only ones to have spotted the great potential of reverse mortgage markets. In the U.S., much of the credit for the development of the market belongs to one individual, Ken Scholen. He founded the National Center for Home Equity Conversion in Apple Valley, Minnesota, in 1978, well before there were any reverse mortgages on the market. He has continued to be a major figure inspiring public and private sector involvement on the supply side in this market. However, he did not take his idea and make millions from it, as some might have in other sectors of the economy. Instead, he recognized that the process of introducing these markets would involve politics.

The pitfalls on the road to building the market are illustrated by the significant number of commercial enterprises that have tried to start these markets, without success. American Homestead was the first U.S. company

to offer reverse mortgages, starting in the mid-1980s. This firm funded 1500 mortgages and then ran short of capital. Other private efforts to launch the market were those of Providential and Capital Holdings. Capital Holdings originated about 2000 reverse mortgages, but then it withdrew from the marketplace when the housing market turned down in 1993. Providential issued several hundred mortgages before running out of mortgage capital in 1991. At this stage, Providential stopped making new loans, but continued to pay off existing loans and took applications for more. In 1992, armed with qualified applicants and properties, Providential raised $65 million in an oversubscribed public offering. All seemed to be going well for Providential, and indeed its stock was appreciating. However at this point the Securities and Exchange Commission announced an investigation into the company's accounting practices. In July 1992, it ruled that the company should not assume any future changes in property value when projecting cash flows. More opinions led the SEC to revise its ruling in September 1992, allowing the use of Monte Carlo techniques using a reasonable projection of expected mean rate of return, as well as variation of individual around market returns. But Providential's shares never recovered after the initial investigation, and the company has since withdrawn from the marketplace.

## The Regulatory Minefield

Why might an accounting challenge be sufficient to end Providential's participation in the reverse mortgage market? Because it is merely the tip of the iceberg in terms of the regulatory and institutional complexities surrounding reverse mortgages. Hammond (1997: 175) gives some hints as to the deeper complexities:

> The laws governing the creation, perfection, and enforcement of security interests in real estate are the mortgage laws of the state in which the real estate is situated. . . . On the other hand the rules governing the type of loans a lending institution is authorized to offer (including loans secured by real estate) are set by state and federal regulatory agencies. . . . When state mortgage law and the rules regulating a federal lending institution conflict or are inconsistent, generally the local, state law will be applicable unless the federal law preempts the state law. . . . The fact that a lending institution is authorized to make reverse mortgage loans does not mean the elderly citizen of such a state can take advantage of this device.

The problems for reverse mortgages caused by the vagaries of state law are profound. In its initial report to Congress, HUD was very concerned with legal issues at the state level. In its followup report (USHUD 1995: ES-2), it noted that some progress has been made:

> With respect to legal barriers at the state level, the Department finds improvements since the previous evaluation, although obstacles do remain. . . . Texas, with the homestead provision in its state constitution that prohibits mortgage lending except

for certain specific purposes, is the only state where it is clear that no class of lender may legally originate reverse mortgages.

To get to this happy state required a large scale lobbying effort to obtain appropriate legal changes in many states. Specific enabling legislation had to be passed in New York, Tennessee, and South Carolina. New York also eliminated recording taxes, and Tennessee had to eliminate a 20-year maximum for open-ended credit. Illinois went back and forth on whether or not to eliminate a restrictive law. On the negative side, Minnesota determined that mortgage bankers were not authorized to originate reverse mortgages, and Texas fought hard to retain the constitutional provision that prohibits lenders from making home mortgages for any reasons except to purchase a home, to pay taxes on a home, or to finance repairs to a home.

But there is a far bigger legal issue on the horizon, one that concerns the sale of property when the crossover point has been passed (USHUD 1995: 5–13):

> The Department remains concerned about the uncertainty of state laws that may affect enforcement of HECM as a first mortgage. This is of particular interest to HUD because enforcement of lien priority against other creditors becomes an increasingly important issue over time as loan balances begin to exceed property values so that some secured creditors might not be able to have their loans satisfied from the sales proceeds. Most HECM loans will probably be assigned to HUD before this situation occurs so that HUD has legal concerns not necessarily shared to the same degree by originating lenders. . . . The laws in some states are not clear regarding the lien priority to be granted to loan advances made over an extended number of years under a mortgage that was recorded as a first mortgage. HUD has attempted to ensure that all HECM loan advances will be regarded under state law as mandatory or obligatory advances that, under the law prevailing in most states, would also have a first lien priority, but there remains some legal risk in some states.

Hammond (1997: 176) asserts more broadly:

> a number of legal issues remain as a hurdle to reverse mortgages. These include priority of liens, mortgage-recordation taxes, restrictions on terms and rates of mortgages, limitations on use of proceeds, and mandatory counseling requirements.

This is far from the end of the regulatory problem. The Federal Reserve Board considers a reverse mortgage to be an "open end consumer credit plan under which extensions of credit are secured by a consumer's principal dwelling." Hence the Truth-in-Lending-Act applies, and the lender must state "loss of dwelling may occur in the event of default." Unfortunately, this is not accurate: the household only stands to lose the property if it fails to pay taxes, fail to keep the property in good repair, or otherwise endangers the lender's security interest in the property.

Legal uncertainty runs even deeper than this, since it is not clear what to do if a household declares bankruptcy. How will bankruptcy law be applied?

Further, what if there is a dispute concerning whether the household has maintained occupancy? What happens when the occupants die, and there is some wastage of the house in the meantime: is the family liable?

## The Homeowner's Perspective: Taxes and Benefits

Uncertainty about the implications of the reverse mortgage is felt not only by suppliers, but also by homeowners. Indeed, while HECM requires borrower counseling by an agency approved by HUD, none of these agencies is a law firm. It will not reassure borrowers that they must sign a certificate disclosing that a HECM "may have tax consequences, affect eligibility for assistance under Federal and State programs, and have an impact on the estate and heirs of the borrower." What specific tax issues arise? One question concerns the potential taxability of the proceeds of the reverse mortgage. While the IRS does not consider loan advances to be income, annuity advances are in fact partially taxable. A second question concerns the possibility of a phantom gain that may occur when an elderly household sells the home for a handsome capital gain, but at a time when the loan has grown to be even larger than this. The end result may be a tax bill that the household is unable to pay.

Rosenbaum et al. (1995) content that the uncertainties about the IRS attitude to reverse mortgages run far deeper than this. They argue that a reverse mortgage is a sale rather than a loan as a matter of legal definition, given the high probability that the entire value of the house will ultimately accrue to the grantor of the mortgage. While IRS revenue procedure 91-3 states that the service will not rule whether a particular structure shall be construed as a loan or recast as a sale, there is a possibility that the IRS will ultimately rule that reverse mortgages are sales rather than loans. Such a ruling would have a disastrous impact on the financial positions of the supposed owners (Rosenbaum et al. 1995: 49n47):

> The Revenue Reconciliation Act of 1993 introduces a new provision designed to reclassify from capital gains to ordinary income the proceeds of transactions which are, in effect, disguised sales marketed as loans. If applied to reverse mortgages, such a reclassification might minimize or eliminate the gains against which a senior's one-time $125,000 exclusion would otherwise be useful. Gain would be converted to fully taxable ordinary income, without exclusion.

The situation with respect to benefits is almost as confusing. Currently, it appears that social security and Medicare benefits are not affected by whether or not the household has taken a reverse mortgage (Scholen, 1996). But the situation with respect to the Supplemental Security Income (SSI) and Medicaid programs is far more complex, as described in Nauts (1997) and Hammond (1997). In the federal SSI program, a loan advance cannot affect one's SSI benefits if one spends the loan advance in the calen-

dar month in which it is received. But if one's total liquid assets at the end of any month are above a very low limit, eligibility is lost. In addition, the money received from an annuity can reduce SSI benefits dollar for dollar, or make one ineligible for Medicaid. Even these current complexities pale in comparison with the possible scenarios regarding how these programs will change over time.

## Inertia in the Large

The inertial forces outlined above can have a devastating impact on the incentive of private sector investors to develop all manner of new products. The inherent incompleteness of the surrounding regulatory environment makes it very hard to design products that provide a company with a competitive edge. The only way to reduce regulatory uncertainty to manageable proportions would appear to be through expanded public discussion of the products and an effort to capture the attention of the important legislators. Unfortunately this public discussion removes the incentive to innovate, since contract clauses are so easy to imitate. These problems could be greatly diminished if it were possible to purchase comprehensive insurance against regulatory and legal uncertainty prior to introduction of the products.

Difficulties in obtaining patents on contracts imply that a first mover can emerge only if the innovator can establish brand name and a central role as a market maker. But there is no reason to expect the first few efforts at product introduction to succeed. Even HUD is unsure as to the legal standing of reverse mortgages, despite sympathies among legislators and the American Bar Association. This means that the only real test of the regulatory system is some form of product introduction, resulting in inevitable challenges and problems, with the precise pitfalls varying from case to case, from agency to agency, and from state to state. The ultimate rulings in these cases will be public goods benefiting not only the innovator, but also any imitators who choose simply to wait and see. In terms of a private sector venture becoming a market maker, the presence of Fannie Mae and Freddie Mac, with their close access to politicians and cheap funding, will likely end any such fantasies.

Powerful as these institutionally determined incentive problems are, they do not fully explain the failure of the market to develop. Inertia on the demand side is also a factor. The clearest evidence of the independent importance of demand side inertia is the slow takeoff of the existing market despite all the implicit and explicit federal subsidies. But the deeper point is that institutions themselves are endogenous in the longer run. The presence of potentially huge gains from trade might be expected to produce pressure to correct and to clarify the appropriate branches of federal laws, state laws, and the tax code. Older households looking to increase consumption should encourage groups such as the AARP to seek changes in legal

and regulatory barriers. So why isn't this happening in the case of reverse mortgages?

The psychological forces outlined above may be important if we are to understand the lack of demand side pressure for change. Of particular interest are forces that lessen the political involvement of those who may, at some future date, benefit from a thick market. These are the forces that make it uncomfortable even to contemplate going into debt except in an emergency. At any given time, the only people demanding such a product are those with a need for emergency funds, but they may have more pressing things on their mind than lobbying for the necessary regulatory clarifications.

## Policies to Promote Innovation

The government has a long record as a promoter of innovation in the U.S. housing finance market. Indeed two of the key products in the current market, the 30-year mortgage and the mortgage-backed security, were developed by the public sector. It is this interest in promoting innovation that lies behind the policies promoting richer development of the reverse mortgage market. Yet our analysis suggests that the reverse mortgage is unlikely to be seen as a hugely successful innovation unless there is some change in federal strategy. What changes in policy might speed up the development of the reverse mortgage market and stimulate more rapid innovation in the stodgy field of housing finance?

The current method of federal intervention is to push agencies to create the reverse mortgage market themselves. This strategy has both pluses and minuses. On the plus side, by introducing a new product and following up on the various regulatory and legal problems, this approach exposes the hidden dangers that the regulatory and legal systems have in store for these contracts. On the minus side, there is no evidence to suggest that government agencies should maintain a monopoly on product design. We sketch a few possible variations on the reverse mortgage theme to illustrate the complexity of the various questions of optimal product design.

### Alternative Products

Alternatives to the current reverse mortgage range all the way from such minor changes as adding richer insurance features to the existing contracts, through wholesale changes in the nature of the transaction, and from loan to sale.

*Contract enhancements and insurance features.* The most obvious problems in the current reverse mortgage concern moral hazard in home maintenance, and homeowner uncertainty about future health care costs and the possible desire to move to a new home. In principle, all of these could be better addressed with only minor changes to the market.

With respect to moral hazard, a first cut at the solution would be to include average maintenance expenditures directly in the reverse mortgage price, at least once the crossover point is approached. Rosenbaum et al. (1995) indicate how this could be done with relatively little expense. In fact, it may enable the lenders to increase the principal limit factors, since it removes the need to price in an efficiently low level of house maintenance expenditures. It may be objected that this clause would worry homeowners, since it would mean that they no longer have complete control over decisions on the physical maintenance of the home. Against this, they would no longer be in danger of default or eviction based on their nonfulfillment of the maintenance clause.

If a homeowner's uncertainty about future health status were important, then this too could be alleviated with the appropriate additional clauses. One could add an optional insurance feature, whereby a wide class of possible health problems would give rise to payments sufficient to enable the owner to move to transitional housing if so desired. Again, the richer the insurance coverage, the more the market may ultimately take off, as the worries about this dangerous new product get replaced by relief at having additional margins of safety in stressful and costly future contingencies.

*Outright sale.* There are two different legal formats that could be used to enable the owner to sell a home outright while retaining the right of abode. One is the sale-leaseback discussed by Hammond (1997), and other is the remainder sale proposed by Rosenbaum et al. (1995). The sale-leaseback arrangement is already in use in both England and France, although the scale of the market appears small. Rosenbaum et al. point out that sales of the remainder have an 800-year history in English law.

There are strong economic arguments in favor of such arrangements, since there is a once-and-for-all shift of responsibility for maintenance away from the elderly owner. These also maximize the amount that the elderly can earn from the house, since buyers always get the full value of the house, rather than the potentially lesser amount of the outstanding loan balance. A possible drawback of schemes based on a change of ownership is that these may not appeal to most owners unless psychological issues are handled carefully. There is a powerful belief that ownership *per se* is important, and this may indeed turn out to be true if one does not take care of clauses such as what to do when the resident falls sick. Moreover, the new owner has a monetary incentive to drive the residents out of their home. Of course, over time one could hope for standards to develop to prevent this, but there may not be many early takers of such a scheme.

*Shared equity schemes.* A hybrid proposal would involve partial sale of equity rather than only debt finance. One could imagine the use of shared appreciation mortgages, or some form of partnership contract along the lines outlined by Caplin et al. (1997). It is worth noting that the shared appreciation route is already being experimented with by Fannie Mae in its

HomeKeeper product (with apparently limited success). One objection from consumer groups is that the consumer may not understand what he is promising to give up (Wong and Paz-García 1999).

This class of product may have tremendous potential to change the entire landscape of housing finance, not just the last few years of life. The current evidence strongly suggests that many households end up leaving a bequest comprising the house and the house alone. Apparently many households are reluctant to take any act to change their housing equity in late life, and this may be expected to remain true even with better designed products on the market. If this is so, then the best time to change the end of life level of equity may be when the house is initially purchased. In a market dominated by inertia, prevention can be better than cure.

Consider what would happen in an institutional environment in which there were partnership markets, so that an individual never bought all of the equity in the current home. Suppose that the household purchased a $150,000 home for a total up-front cost of $120,000, and that correspondingly it owned a less-than-100-percent share in the final sale price of the home. Suppose further that the household was never going to move out of the house. Would the household feel that it was necessary to save an additional amount to compensate for the lower level of housing equity? Common sense backed by the evidence of Sheiner and Weil (1992) suggests that the answer is no. The most likely outcome is that the lower level of equity would feed directly into higher consumption during the lifetime, with a corresponding increase in welfare.

## Conclusions and Policy Implications

Current U.S. policy involves federal agencies taking the role of monopoly product designer in the market for home equity conversion. However, given the vast array of possible products that would allow for home equity conversion, a more enlightened federal policy may involve taking a more aggressive role in sweeping the regulatory minefield, while at the same time ensuring the strongest possible competition on the supply side of the market.

In order to play the minesweeping role as effectively as possible, one important first step could be for some federal agency to open the door to innovative product designs, at least at the conceptual level. Well-thought-out proposals could be encouraged either by direct payment, or by some indirect method such as the offer of royalties should the proposed contract forms be adopted. When proposals were gathered, the next stage could involve getting all relevant regulators and representatives of various branches of the law together. They would be asked to identify the relevant aspects of existing codes that might impact the performance of these contracts, and to consider additions or changes that would clarify the standing of the proposed contracts. The end result would at least be announcements of regula-

tory intent, or, "private letter rulings" on controversial questions, or even direct changes in regulations.

The most ambitious policy would address the issue of home equity conversion for all households, not just for elderly households. As has been argued elsewhere (Caplin et al. 1997), increased use of equity finance may help alleviate many of the current problems in the housing finance market, including affordability problems for younger home buyers. Of course these richer markets in home equity conversion open far more subtle regulatory questions. Why does the IRS view sharing of losses on the home as stripping the owner of the right to take the mortgage interest deduction? What is the legal definition of home ownership, and is this an economically sensible definition? This is the uncharted territory that must be mapped out to encourage large-scale and beneficial innovations in the housing finance market.

### Note

1. A complete discussion of the nature and motivations for the principal limit factor can be found in Szymanoski (1994).

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