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Reverse Mortgage Products for the Indian Market: An Exploration of Issues

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Abstract

This paper explores the prospects for reverse mortgage (RM) products in India. Developed countries are faced with severe budgetary constraints in sustaining their current universal and liberal old age social and income security (OASIS) programmes. Developing countries are slated to face acute problems in meeting the OASIS needs of their projected population of the elderly.

These budgetary constraints and increasing expectations on quality of life amongst the elderly would fuel a massive demand for financial products tailored to the elderly- for safe investment avenues, systematic liquidation of assets to finance consumption, managing longevity and inflation risks and imparting liquidity to illiquid assets.

RM encompasses a range of non-recourse mortgage loans, which help a borrower get liquid funds against his home equity, without having to move out or having to make any repayments, till he dies or sells the house or moves out. Since bulk of the savings at retirement is typically locked in home equity, RM is a powerful device to increase the incomes of the elderly. RM has been in existence in Europe for several centuries but in highly localized and personalized contexts. The modern version of the RM was introduced in U.S with the support of the Federal Government in late 1980s.

Literature on RM is unanimous on its huge market potential. However, its complexity exposes a lender to several risks: mortality, interest rates and real estate markets. It is an unusual product for a typical elderly borrower, creating fears of debt burden, eviction and inability to bequeath property. Legal, taxation and other regulatory uncertainties still persist. The actual volume of RM loans in U.S is only moderate. RM products have been recently introduced in Europe and Singapore. The actual U.S experience so far, under both federally insured and proprietary RM, has been reasonably good.

Demographic projections indicate that RM could have reasonable prospects in India, to begin with in urban areas of Kerala, Tamil Nadu, Goa, Chandigarh and possibly all metros. There are however no solid secondary data relevant to RM available. These include mortality amongst the elderly, current home ownership amongst the elderly, trends in appreciation in home value and long term interest rates.

In spite of the above, we recommend further RM specific research to enable design of RM products suited to Indian conditions. Location specific assessment of market potential, documentation of legal and regulatory issues and real estate markets would be necessary.

Reverse Mortgage Products for the Indian Market: An Exploration of Issues

1. Introduction

The global market for Old Age Social and Income Security (OASIS) products are projected to grow substantially and India is no exception [1]. Defined benefit schemes, both publicly and privately funded, are facing many risks and their viability is under threat. This has prompted the development of many products for sharing such risks, with pure defined contribution plans at one extreme. In fact, the Government of India (GOI) has shifted all its recent recruits to such a defined contribution plan. However, defined contribution plans convert only the financial savings during working age into income streams in old age.

To the extent savings during working age is locked up in house property, it cannot be en-cashed for old age needs except through selling and / or moving out. This would be the case even if traditional loans were taken against house property, as they have to be repaid, either through instalments or on maturity. This is where reverse mortgage (RM) has a potential market: as an instrument to convert equity in a house property into an income stream, without any debt servicing or relocating worries. RM products are not available in India as of now.

This paper is based on a small desk research and contains the following:

- A Survey of Literature on RM, both academic as well as practice oriented
- Preliminary exploration of India specific issues

2. Home Equity Conversion Products

RM is only one among a range of actual or potential financial instruments, which could enable a house-owner to get liquid funds, against his home equity. Tightly integrated markets in housing, housing finance including secondary markets, and home equity conversion can together enhance social welfare in a wide-ranging manner [2, 3, 4]. Home

equity conversion products may be useful to all those who are "house-rich but cash-poor", not necessarily only the elderly.

The range of such home equity conversion products includes the following:

- Reverse Mortgage (discussed in detail subsequently)
- Home Reversion / Sale and Lease Back

  The homeowner sells his house outright now, but retains the right to live in it for life for a nominal/reduced rent. The sale proceeds may be paid in a lump sum or as an annuity. This could very well be an intra-family transaction.

- Interest-only Mortgage

  This could be useful to those who are in need of an immediate lump sum, but still have only limited loan-servicing capacity. During the tenure of the loan, the borrower is required to make only interest payments. The principal is due only on maturity or death or a permanent move or sale.

- Mortgage Annuity/ Home Income

  This is suitable for the very old for whom life annuity rates are more attractive. The loan amount is used to buy a life annuity. The mortgage interest is deducted from the annuity and the balance is paid as periodic income. The principal is repaid on death or sale of the house. The attraction is that the annuity will continue even if the borrower sells the house or moves out permanently

- Shared Appreciation Mortgage

  This provides loans at a below market interest rate. The loan is repaid at death or moving or sale. In return, the lender gets a pre-agreed share in any appreciation in the property value over the accumulated value of the loan.

As the markets for RM developed in U.S., some of these features have been incorporated as options in the standard RM product. Therefore, the distinctions above are not watertight.

3. Reverse Mortgage in Brief

Roughly speaking, RM is the ‘reverse’ of a conventional mortgage loan.

In a conventional mortgage loan, the borrower starts with a large loan and low equity in his house. As he pays his regular mortgage instalments, he reduces his outstanding loan amount and increases his house equity.

In contrast, an RM borrower starts with a very high equity in his house. The lender extends a non-recourse loan secured by the house property. The borrower may choose to receive the proceeds through

- A lump sum at the beginning
- Monthly payments till a fixed term or a life-long annuity
- Establishing a credit-line with or without accrual of interest on credit balance
- A combination of the above

The borrower need not move out of the house or make any payment to the lender, as long he is alive and continue to live in the house or does not sell it. Therefore the loan and interest accumulates till maturity. There is no credit or income requirement to be satisfied. Even if the accumulated loan and interest goes above the realizable value of the house at disposal, the repayment is capped at that value only. Hence RM is a case of ‘raising debt, falling equity’.

Understandably, the amount of loan will be a function of

- Age of the borrower and any co-applicant (life expectancy/ mortality risks)
- The current value of the property and expected property appreciation rate (real estate market risk)
- The current interest rate and interest rate volatility (interest rate risk)
- Closure and servicing costs
- Specific features chosen: fixed or floating interest; shared appreciation; interest earning credit-line; and mortgage insurance, if any

There is conceptually nothing in the reverse mortgage idea to restrict it to only the elderly[2]. But the product is particularly suited for old people: in fact, the older a person is, the more attractive RM is. Why?

- RM requires near total equity ownership of the house- more likely for ages above 50 (unless the property is inherited)
- It is attractive to only people with insufficient current income and little financial savings- by implication, retired persons
- For a given property value, the lower the life expectancy (older the person is), higher is the additional income through an RM.
- Public policy support including tax incentives is more likely if the borrowers are the elderly.
- The elderly are particularly likely to attach significant psychological/ emotional/ sentimental value to 'ageing in place' without moving out. In fact, the longer they have stayed in their current home, the more valuable this is likely to be, considering the benefits of a familiar neighbourhood [5].

It is reported [2, p.29] that as early as 400 years ago, European investors purchased homes from elderly persons and allowed them to stay in the same house rent-free for the rest of their lives. Home-reversion was created in U.K during the crash of 1929. Similar arrangements called "*viagres*" were available in France. The concept was subsequently brought into U.S, where it has developed and evolved the most, both in variety and volumes.

4. Current Volumes in U.S RM Markets

The current volumes and projections for the U.S market, to quote from http://www.reversemortgage.org, the website of The National Reverse Mortgage Lenders Association (NRMLA) of the U.S, are as follows:

> To date, more than 80,000 reverse mortgages have been originated in the U.S…

[2] For example, the relatively young can use RM to finance children's education or marriage, reduction in labour force participation for family reasons and unplanned events such as retrenchments [11]

> Lenders closed a record 13,049 Home Equity Conversion Mortgage [HECM] loans during the most recent federal fiscal year, ending September 30, 2002, a 63 percent increase over the old mark of 7,982 set in FY 1999.
>
> This year's (FY 2002) volume figure was 68 percent higher than the 7,781 HECMs closed in FY 2001.
>
> … roughly $1 billion in reverse mortgage loan proceeds was advanced between 1989 and 1999. An additional $1 billion was funded between 1999 and 2002. Between now and 2015, … $23.7 billion will be advanced to seniors, representing a solid 20 percent growth rate for the industry….

Though the current low interest rates and the boom in the real estate market of the 1990s may be behind this fast growth, observers believe that the RM market is set to take off, thanks to the relentless underlying demographics of ageing. Similar projections are not readily available for Europe.

However, the above actual volumes are miniscule compared to the potential U.S target market size identified in literature.

5. Potential Market for RM in U.S

5.1 Theoretical Framework

As briefly mentioned earlier, a comprehensive reverse mortgage market can have major macroeconomic implications, through savings, investment and consumption decisions of large sections of the population. As Mitchell [16] pointed out, not much attention has been given to designing suitable products for the de-accumulation phase of (even financial) retirement savings in general. RM will be an important piece in this jigsaw puzzle, if at all it is ever completed.

However, the micro-economic foundations for RM are in models of lifetime savings and consumption decisions. This research has a long history, even though it is still an unsettled area. Keynes suggested consumption is a linear function of current income. The so-called "life cycle" models predicted borrowing at young age, accumulation in the middle age and dis-saving to finance consumption during old age. Subsequently there

have been "permanent income" hypothesis based models. These argue that an individual operates on the notion of an "expected average income" during his lifetime rather than on current, transitory income alone. The "overlapping generations" models sought to explicitly incorporate inter-generational issues of transfers between parents and children. Empirical research has not conclusively supported any one set of models.

Empirical data also indicate that housing represents an increasing proportion of the total wealth as people age. In addition, inequality in housing wealth is far less than the inequality in total wealth among elderly households.

However, one puzzling empirical finding, at least in U.S, is that elders continue to accumulate assets with age, contrary to the predictions of theoretical models. Explanations offered include the following:

- In fact it is not so if we consider the 'really' old only.
- It is a misleading conclusion based on aggregate data on all elderly households
- that does not stand up when we exclude data on very rich households who do not
- face budget constraints
- Precaution/ insurance against uncertainty in expenses- example, inflation, long-term care, health
- Bequest motive- the elders really want to leave as big a legacy as possible
- Strategic bequest- bequest is a part of the strategy by which the elderly ensure that their children/ heirs look after their needs (other than monetary).
- Uncertain life span- since we are not sure when exactly we would die, we just happen to leave behind something, not because we intended so.

5.2 Empirical Estimates for U.S [6, 7, 8]

Most of the estimates are from the public policy perspective of the potential of RM to meet the financial needs of the elderly. They are based on various federally sponsored surveys (American Housing Survey, Survey of Income and Program Participation), rather

than surveys to specifically assess the potential for RM. Given the survey data, they estimate the number of the respondent households who may benefit through RM:

- Elderly (e.g., age 62 and above)
- High levels of housing equity with or without high expected rates of appreciation (relatively higher valued homes with mortgages almost paid up)
- Low levels of current incomes (RM will enhance income substantially)
- Potentially without bequeath motives (having no children)
- Living alone (widowers/ widows)
- Indebted (RM lump sum may help payoff high cost debt)
- Comparatively long tenure in the current house (say above 10 years, indicating high value attached to continued stay)

Having done the above, these studies estimate/ simulate the RM lump sum/ annuity which such households could generate, using one or the other of the RM products available (typically, the federally insured HECM with a tenure annuity payout). Thus they estimate the number of households that could increase their monthly incomes by various percentages compared to their current income levels.

For example, Meyer and Simons [6, p.253] provide the following estimates:

> …over six-million homeowners in the United States could increase their effective monthly income by at least 20% by using a reverse mortgage. Of these, more than 1.3 million have no children…[RM will allow] over 1.4 million poor elderly persons to raise their income above poverty line.
>
> Almost five million households could receive a lump sum…that is twice as large as their current holdings of liquid assets…giving them access to resources in case of financial emergencies without losing their home.

Merrill, Finkel and Kutty [8] use a different data set and more restrictive criteria, to identify the prime target group for RM: the relatively older among elderly (age>70 yrs); low income (<30000 $/yr); high home equity (between 100000 to 200000 $); and a strong desire to remain in current home (length of stay >10 yrs). They estimated such households in late 1980s to be 800000.

Kutty [7] focused specifically on the potential of RM to lift the elderly poor above the poverty line. Based on a 1991 survey, the author estimated that 621820 such households constituting 18% of all elderly poor households could be brought above the poverty line. The author advocated strong public policy support for RM.

It is puzzling that the actual volumes are nowhere near the estimated potential, even fifteen years after the introduction of the federally supported and insured HECM product.

We now turn to the explanations offered so far in the literature.

5.3 Plausible Reasons for the Gap between Potential and Actual Volumes

We can classify the plausible reasons into three broad groups [9]

- Demand Side
- Supply Side
- "Regulatory mine-field"

Demand Side

Leviton [5] found that homeowners took RM loans[3] only as a "last resort". Her paper is unusual on two counts: it is based on her PhD thesis; and uses a qualitative research methodology of in-depth interviews of 31 households, to explore the meaning of home, financial values, decision making and life stage. We summarize her findings:

> On "Attachment to Home"
>
> …strongly attached to their houses and wanted to remain there as long as seemed possible or sensible…
>
> … buying a house had been a defining moment, the beginning of a new stage in their life… A reverse mortgage would allow them to hold onto…

[3] We must hasten to add that Leviton covered only those who have taken RM loans, which have to be repaid at the end of a fixed term. The loans considered by her did not have federal insurance and were operated by a non-profit agency. This is not an RM with a life-long right to residence and an obligation to pay on death or sale or move out, extended by mainline financial intermediaries and backed by federal insurance, the main focus of this paper.

…moving implied a change in status [to a lower, less desirable status] as well as residential location…

…their identities were bound up in their houses…

…staying put in their houses allowed homeowners to keep in touch with family memories…

…relationships with younger neighbours were stronger than expected…

On "Financial Problems and Attitudes"

Social security was the homeowners' main source of income. Pensions contributed little…

Nothing remained of lump sum retirement or profit-sharing settlements…
…The real financial crunch came when one spouse died…

Health care costs outweighed concern about other living expenses[4], such as real estate taxes, utility bills, food, and routine home maintenance. After health care, homeowners found the unexpected expense most troubling…
…The homeowners prided themselves in managing frugally, in "getting by"… Lifetime habits of frugality did not change with taking a reverse mortgage.

Despite their frugality, about two-thirds…had fallen in debt…Debt represented a loss of sense of control…homeowners were adamant about meeting their financial responsibilities and becoming "free and clear"…[it] allowed them to maintain good self-image.

Homeowners clearly wanted to remain independent of both family and government.
A financial legacy was a strongly held value…even for people without children…

Reverse mortgages directly conflicted with the desire to leave a legacy. Strong family support was needed to convince the homeowners to take reverse mortgage.

The homeowners' tendency to keep their financial problems to themselves may also impede marketing of…reverse mortgages…limits their spread through word of mouth.

On "Decision Making"

Several stages were seen.

[4] Even in 1983, it is reported that people over 65 spent $ 3140/yr on health care compared to $ 838 by those under 65 [11, footnote 3]

Acknowledging the need

…with great hesitancy and caution…lacked role models…had to overcome their fears…
…homeowners acknowledged a need for reverse mortgage [only] when they had become desperate…

Information gathering

…homeowners most commonly learned about reverse mortgage from family members…counsellors were their other major source… They appreciated… information without [sales] pressure…needed time to absorb and evaluate…

Sleeping on it

…mulled over their options… over months or years.

…separate the options into those that required moving and those that allowed staying in place…

…a nursing home was everyone's worst fear…[5]

Weighing options

For most…the final choices came down to taking a reverse mortgage or selling. Wrestling between these options sometimes lasted years.

The lengthy weighing stage may have had later benefits… they did not seem to second-guess their decisions…

Acceptance/Reflection

Homeowners seemed satisfied and… understood the trade-offs…were greatly relieved to be out of financial crisis…

Caplin [9] expressed similar viewpoints (called it 'complex psychology' of RM decisions) and added several more reasons for the lack of demand:

- Very high transaction costs, possibly amounting to as much as 14% of the eligible loan amount under the HECM programme, may make it very unattractive to potential borrowers, especially when there is a desire/ plan to move out.

[5] This is also supported by a 1992 survey which found that more than 84% of those aged 55 and above wanted to remain in their homes as long as possible [11, footnote 3]

- Homeowners may fear that they may have to vacate their house in case they become too ill in future to afford maintaining the house as per RM loan requirements and the lender insists upon foreclosure.

- HECM insurance programme (discussed later) makes it mandatory for the potential RM borrower to undergo counselling. Though the intention is to provide reassurance, the effect might be the opposite.

- Excessive procrastination when decisions involve current costs and future benefits

Depending on specific features of an RM product, there are some more uncertain implications for the homeowner:

- The proceeds paid to a homeowner availing RM may be considered as loan advances and hence may not be taxed as income. It may also have no impact on social security payments and medicare benefits. However, if the RM proceeds are used to buy an annuity, the interest part of the annuity may attract income tax. As pointed out in [4], the borrower may be able to get a tax shield on the interest on the RM loan.

- Suppose the house is sold so as to result in a capital gain. What happens when the accumulated RM loan value exceeds the sale value? Will the homeowner have to pay capital gains tax without any part of the sale proceeds accruing to him?

The Supply Side

RM Champions?

The limited literature on RM credits one individual, Ken Scholen and the American Association of Retired Persons (AARP) for championing the cause of RM. Bulk of their efforts were directed at policy makers, public financial institutions and private lenders to persuade them to develop and promote RM products and markets. AARP also actively advocates RM, as a worthwhile alternative for borrowing to meet old age financial needs.

Risks to RM Lenders

Szymanoski [10] is a good starting point to appreciate the risks faced by an RM lender. These risks are at the heart of the reluctance of lenders to get into RM lending, in the absence of public policy support. The principal and *unique* problem facing the lender is that of predicting accumulated future loan balances under an RM, at the time of origination. The uniqueness is because RM is a ‘rising debt’ instrument. Since RM is a

non-recourse loan, the lender has no access to other properties, if any, of the borrower. Even if the collateral property appreciates in value, it might still be lower than the loan balance at the time of disposal of the property. There are three basic sources of this risk:

Mortality Risks

This is the risk that an RM borrower lives longer than anticipated. The lender might get hit both ways: he has to make annuity payments for a longer period; and the eventual value realised might decline. However, this risk is usually 'diversifiable', if the RM lender has a large pool of such borrowers. Possibility of adverse selection (of predominance of relatively healthier borrowers) is counterbalanced by the possibility that even borrowers with poor health may be attracted by RM's credit line or lump sum options.

However, there is no literature on one possible source of systematic risk. Since RM is projected to substantially improve the monthly income and/ or liquid funds of the RM borrowers, would it not itself result in a systematically higher life expectancy amongst them than otherwise? Perhaps this lacuna is due to the relatively short experience with RM so far.[6]

Interest Rate Risks

Given that the typical RM borrower is elderly and is looking for predictable sources of income/ liquidity, RM loans promise a fixed monthly payment / lump sum / credit line entitlement. However, for the lender, this is a long-term commitment with significant interest rate risks.

[6] If we have access to annuitant mortality rates for groups at different income levels, we can make a guess on the magnitude of this impact. Similar systematic risks are present in 'viaticals', involving purchasing life insurance policies from the terminally ill, at a discounted price.

While fixing the above, the lender has to account for a risk premium and thus can offer only a conservative deal to the borrower. This interest rate risk is not fully diversifiable within the RM portfolio.

Most of the RM loans accumulate interest on a floating rate basis to minimize interest rate risks to the lender. However, since there are no actual periodic interest payments from the borrower, these can be realized only at the time of disposal of the house, if at all.

Property Market Risk

This risk may be partly diversifiable by geographical diversification of RM loans. However, property values may be a non-stationary time series[7].

Others have pointed out additional aspects of these risks:

- RM can be considered as a package loan with a 'crossover' put option to the borrower to sell his house at the accumulated value of the RM loan at the (uncertain) time of repayment. If this option can be valued, it can be suitably priced and sold in the market. However, unlike in the case of forward mortgages, markets for resale, securitization and derivatives based on RMs are non-existent or non-competitive. Small market size and predominance of government backed RM insurance may dissuade potential entrants [11, 9]. This impedes the flow of funds to finance RM loans.

- For the lender, both the interest and any shared appreciation component added to the loan balance are taxable as current income even though there is no cash inflow [11,12]

- RM loans found takers amongst lenders only after the availability of default insurance under the HECM programme. Even then, in most of the RM loans, interest accumulates at a floating rate linked to one-year treasury rates. Boehm and Ehrhardt [12] illustrate why. Basically they demonstrate that

    - A fixed interest rate RM carries an interest rate risk *several orders of magnitude higher* than a conventional coupon bond or regular mortgage. It could be especially high at origination (as many as 100 times) and continues to be higher throughout.

[7] There is no tendency to return to long-term average or expected rates of appreciation. Such a time series has to be modelled as a random walk, like in the case of equity markets

- The small initial investment under an RM is very deceptive. RM creates very large off-balance sheet liabilities, if market rates rise above the rate assumed under RM.

- If interest rate risk is also incorporated into capital adequacy norms, this will mean disproportionate (to current asset value) additional capital commitments to support RM lending

- This is because the typically small RM loan value at origination is essentially the difference between the value of a relatively long duration asset (loan repayment) and a relatively shorter duration annuity liability.

- Compared to a fixed interest RM that is non-callable by the borrower, a callable RM carries very high risks for the lender. The fact that most of the RMs accumulate at floating rates and that fresh RM loans involve significant upfront costs mitigate this risk considerably [9]

Moral Hazard Risk

Once an RM loan is taken, the homeowners may have no incentive to maintain the house so as to preserve or enhance market value. This might be especially true when the loan balance is more or less sure to cross the sale value. Since the benefit would accrue mainly to the lenders and the cost borne by the homeowner, it is perhaps not sensible to assume otherwise. Miceli and Sirmans [14] model this risk. They conclude that in a competitive market, the lenders will respond by either reducing the loan amount or by charging a risk premium in interest or both[8]. However this fear of moral hazard in maintenance does not square with the findings of Leviton [5] discussed earlier, on the intensity of the attachment of the elderly to their homes.

The more important point is that some time during the tenure of an RM, an elderly borrower may simply be physically incapable of maintaining the home as per loan requirements. Though the RM loan contract provides for foreclosure under such conditions, this seems to be impractical and sure to result in litigation and bad publicity for the lender. These problems have begun to crop up already [9].

Shiller and Weiss [15] broaden the scope in two dimensions:

- In addition to RM, a range of home equity conversion products

[8] A major drawback is that they model only a fixed term RM.

- Beyond mere maintenance, they consider incentives to improve home values, to drive a hard bargain at the time of sale, and cheat the lender at the time of appraisal before granting the loan (adverse selection) or through disguised or complex sale arrangements to achieve undeclared gains at the cost of the lender.

They advice caution:

- Experience to date may not be a reliable guide to the future as most of the experimental schemes are in their infancy
- Losses due to moral hazard may take many years to develop
- Competitive pressures for achieving volumes in future may increase this risk

Liquidity Risks

In RM loans where the borrower draws down on his loan through a credit line, there is a risk of sudden withdrawals.

6. A Study of Actual Experience with Reverse Annuity Mortgage (RAM)

Given the infancy of the RM market, it is not surprising that the extant literature is predominantly hypothetical: "if only…" or "what if?" type.

The only exception we have come across on a stand-alone RM (i.e., apart from HECM insurance backed RM, discussed later) is the paper by Klein and Sirmans [13]. They have assessed the Reverse Annuity Mortgage (RAM) programme of the Connecticut Housing Finance Authority (CHFA), originally developed in 1984. We highlight the major characteristics of this RAM programme (as of 1988):

- 'Split-term' RAM of 5 or 10 years; that is, annuities stopped at the end of the term but borrowers had a guaranteed lifetime occupancy
- Homeowners above 65 years of age eligible for RAM. Only those above 80 were eligible for a 5-year term.
- Maximum loan amount restricted to 80% of appraisal value or 300000$ whichever is less
- 7% fixed interest rate used both for calculating the annuity payments and for interest accumulation

- An initial lump sum payment of a maximum of 25000$
- Annuities increased at 3% per annum to cover increasing living costs
- A 5-year Long Term Care (LTC) provision for those below 80 [benefits not clear]
- CHFA employees visited the applicants and did all the necessary paperwork. The borrowers did not have to leave their home or incur any out-of-pocket expenses 765 RAMs were issued during 1985-91. As of July 1, 1993, 240 RAMs have terminated annuity payments. Of these 203 have repaid the loan and the interest continued to accrue on the remaining 37 RAMs. Other RAMs continued to be serviced.

Their findings were:

- An 'average' borrower was 75 yrs old at application with a 30-year occupancy in the house, relatively poorer with an income of $ 11416/ year.
- Only 11% of the applicants mentioned having a spouse
- 44% qualified for LTC
- Older people preferred shorter terms
- By 1989, 98% availed of the maximum initial lump sum.
- Mean value of the loan was 106 464 $
- Average loan-to-appraisal value ratio was 68%, indicating a low probability of 'crossover' or default risk
- As of July 1, 1993 non-terminated loans with continuing annuities (terminated annuities) had made an average of 54 (56) annuity payments.
- Average number of annuity payments on the 203 repaid loans was 28. Repayments took place in around six months after payment termination. All loans have been repaid in full.
- Though the final position may not be as good, the probability of default was small.
- There was no economic incentive for prepayments as market interest rates were above 7%.

- RAM recipients increased their annual income on average by 88%. Incomes doubled for 84% of those with five-year RAMs. This increase was due to both lower incomes and higher RAM payments

- The probability of prepayment is most sensitive to marital status (negative), age of borrower, term, and age of the loan

In short, the actual experience of both the lender and the borrowers with the above RAM does not seem be bad at all, contrary to the fears expressed in the literature.

7. HECM Insurance Programme [primarily based on 10, 17 ,9]

The Home Equity Conversion Mortgage (HECM) insurance demonstration is a programme administered by the U.S. Department of Housing and Urban Development (HUD), from 1991, to accomplish three objectives:

- To permit the conversion of home equity into liquid assets to meet the special needs of the elderly homeowners

- To encourage and increase participation by the mortgage markets in converting home equity into liquid assets

- To determine the extent of demand for home equity conversion mortgages that best serve the needs of elderly homeowners

This programme seeks to do the above primarily by providing mortgage insurance to reverse mortgage loans originated by approved lenders. This insurance

- Compensates lenders in the event that sales proceeds are not sufficient to meet the outstanding mortgage balance

- Guarantees borrowers that loan payments will continue even if the lender defaults

A summary of the programme design features drawn from [9] are given below:

1. The borrower can choose from a variety of payment options (as discussed earlier), and can change payment plans at anytime. This flexibility is such that the expected present value of payments remains the same. Borrowers can in fact prepay the mortgage balance partly and then re-borrow![9]

[9] Though conceptually simple, this flexibility has complicated origination and servicing. It also attracts some banking regulations under ‘open-end credit’ disclosure requirements

2. Any homeowner of age 62 and above who owns a home 'free and clear' and uses it as his principal residence is eligible. The RM loan is secured only by the house property.

3. Potential borrowers have to receive counselling from an 'approved' third party, independent of the lender.

4. There are some eligibility conditions on the type and current conditions of the property against which a loan can be extended as per HUD's minimum property standards.

5. Payments to the Borrower:

    a. Based on the age of the youngest borrower, prevailing mortgage interest rate and the 'adjusted property value'

    b. Adjusted property value is the lesser of the apprised value and a (area specific) maximum specified under the programme

    c. A unique 'principal limit factor' is calculated for each combination of age and interest rate. This is the limit on the initial loan-to- 'adjusted' value ratio

6. Though technically the lender has a choice of charging either a fixed or floating rate, almost all loans use floating rate for accumulating interest[10]. However, the lenders have to use the 'expected average mortgage interest rate' to determine the initial principal limit factor.

7. The program offers a 'shared appreciation' option. Under this, the lender may claim up to 25% of the appreciation in property value over its value at origination. In return, the borrower is supposed to be charged a lower mortgage interest than the 'expected average mortgage interest rate' as above. This would provide higher RM payments and preserve more equity. However, there has not been a single case so far.[11]

8. A borrower cannot be forced to sell his home. His liability is limited to the value of the home. HUD will step in and make the payments if the lender defaults.

9. The premium for this mortgage insurance is payable by the borrower. It consists of two parts: an up-front 2% of the adjusted property value and a monthly

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[10] Apart from the interest rate risk discussed earlier, a major reason is that the Federal National Mortgage Association (Fannie Mae) purchases only floating interest RM loans originated under the HECM insurance demonstration. This secondary market in RM loans is discussed later.

[11] Again Fannie Mae does not purchase such loans.

premium of 1/12th of 0.5% of the outstanding principal balance added on to the principal balance. Both these premiums can be financed by the RM loan itself.

10. When a mortgage loan is closed, the lender has to choose one of the two insurance options:

    a. Under the *assignment option*, the full insurance premium accrues to the Federal Housing Administration (FHA). The lender has the option of assigning the mortgage to the FHA when the mortgage balance equals 98% of the 'maximum claim amount' (same as adjusted property value). On assignment, the lender claims the balance from the FHA/ HUD and HUD makes all subsequent payments to the borrowers.

    b. Under the *shared premium option*, both the lender and the FHA share both the premium and the risk. The maximum loss to FHA is capped and all the excess loss is borne by the lender. This option is rarely chosen by any lender[12].

The modelling behind the design of the HECM insurance demonstration programme is explained in detail in [10]. The programme was designed to break-even. However, Caplin [9] opines that this programme involves 'an intricate set of subsidies' and that HUD offers insurance guarantees at a 'hard-to-beat' price.

8. Actual Experience with the HECM Insurance Programme

Based on the experience with the demonstration programme and interim evaluation reports of 1992 and 1995, the HECM insurance programme was made permanent in 1998. The latest evaluation was as of Oct 1999[13]. According to [18], the findings are as follows:

The demonstration has generally been a success, as indicated by

a. Growth in loan volumes

b. High levels of satisfaction amongst borrowers

[12] Fannie purchases RM loans with assignment options only

[13] The full report is available from HUD of the U.S Government and can be ordered through http://www.huduser.org/publications

c. Projected surplus of $ 570 per loan of premium collections over insurance claims from lenders, and

d. A trend towards lower average cost paid by the borrowers to originate a loan

2. If the following issues are addressed, volumes could grow further:

    a. Increase in the limit on the loan origination fee that can be financed from the HECM loan, to make it attractive to (retail) lenders.

    b. Continued decline in overall loan costs

    c. Increased FHA loan limits for high valued properties (an USP of the proprietary RM products discussed later)

    d. Increased public awareness

3. As of Oct 1999, as many as 38000 loans were advanced. Of these, 9063 loans have terminated with only 388 claims on the insurance fund.

4. Borrowers are likely to be older, single female households; with higher equity in more valuable house properties.

5. Line of credit is the most common mode of payment chosen by borrowers:

    a. Line of credit alone (68%)

    b. LOC with term or tenure annuity (20%)

6. Amongst the terminated loans, utilization as a percentage of principal limit were as follows:
    a. LOC plans (78%)

    b. Term plans (61%)

    c. Tenure plans (43%)

7. Closing costs have declined from $ 4465 in 1995 to $ 3400 on all outstanding loans as of July 1999.

8. Lenders, counsellors and borrowers all felt that greater marketing and consumer outreach is needed to generate increased awareness and demand. However, even the enhanced origination fee does not make it as profitable as forward mortgage, given the lack of economies of scale in RM.

9. Borrowers desired a refinance option to take advantage of lower long-term interest rates and/or enhanced property values.

10. Competition amongst four HECM servicing companies had resulted in them paying higher amounts to RM loan originators for purchasing servicing rights.

11. There is increasing number of cases where borrowers have failed to pay property taxes, insurance premium or to maintain the property as per HECM requirements.

12. Fannie Mae is the only investor in the secondary markets for HECM loans.

13. There is a wide variation in the degree of expertise and experience amongst HECM counsellors.

14. Funding for counsellor training and counselling services were inadequate. Dependence of counsellors on lenders for their funding may affect their impartiality.

15. In focus group discussions, borrowers who responded most positively had developed a trusting relationship with their counsellors. Similarly, negative responses came from those who felt that the counsellors did not inform them of the high costs of RM loans. Participants were generally surprised by the high cost and felt overwhelmed by the amount and complexity of information provided by the counsellors.

16. The program requires lenders to provide a ‘comprehensive’ measure of total cost of an RM loan, called ‘The Total Annual Loan Cost” (TALC). However, TALC may sometime not provide reliable comparisons across alternative RM products.

17. Actuarial Model Based Projections:

    a. Assumptions: 3% per annum appreciation in property values; 8% interest rate; payment options and draw-down patterns as per latest experience; termination rates of 1.3 times the age specific mortality rates.

    b. As of Oct 1999, accumulated reserve was $ 3778 per RM loan. The expected present value (EPV) of future insurance premium was $ 2475 whereas the EPV of expected claims was $ 5682. Thus the EPV of the projected surplus per loan was $ 570.

    c. The projections were sensitive to assumptions on future rates of interest and property appreciation.

9. Proprietary RM Products

For the elderly whose homes are worth much more than the maximum limit permitted under the HECM demonstration, these proprietary RM loans may offer higher amount of loans. However they may cost more in interest. Comparisons are to be made carefully as closing costs, interest credited on credit-line balance etc., may differ. They do not have protection from the HECM insurance demonstration programme. Examples of such products are:

HomeKeeper of Fannie Mae (Details available at their website http://www.fanniemae.com). Some distinguishing features are:

- No term payment option
- Credit Line does not earn interest
- Flexibility to suspend monthly payments for a temporary period, presumably to avoid losing eligibility for supplementary income support and Medicaid benefits from the government

Financial Freedom Cash Account (from company website *http://www.ffsenior.com*)

- Offered by The Financial Freedom Senior Funding Corporation, a subsidiary of Lehman Brothers.
- Flexible Income Payment Options
- Growing Line of Credit
- Higher Equity Release Options
- No Maximum Lending Limit

Lehman Brothers was the first one to successfully issue $ 317 million in bonds in 1999, backed by Financial Freedom's reverse mortgages.

10. RM: A Minefield?

Caplin [9] outlines the psychological, program level, regulatory, fiscal and legal impediments to further spread of RM, commensurate with its potential. He calls these 'inertial forces' affecting innovative financial products:

1. Borrowers have to bear very high transaction costs, as discussed earlier. (However, the latest program evaluation has pointed out the declining trend in these costs due to growing volumes, increased awareness and learning effects).

2. There is a definite risk of moral hazard in borrowers being responsible for home maintenance and in ultimate home sale. Given the profile of a typical borrower, there are serious questions on both incentives and ability. It is impractical to enforce the foreclosure clause. Negative publicity, potential litigation and likely judgements make it so. Similar issues arise in home sale. (However, these fears do not match with the findings of Leviton [5]).

3. Home equity is an important component of precautionary savings. If a homeowner has drawn down on his equity through an RM, his ability to meet unforeseen health care costs or move into alternative housing may be more limited. Those who become seriously ill but would like to continue to stay at home may face a severe problem. If they have to be away from home for long for convalescence, they may fail to maintain the home and pay property taxes. Then, as per the conditions of the RM, the lender can foreclose the loan.

4. Many elderly households may be simply reluctant to take on debt, having spent so much of their lifetime saving for their own house.

5. There may be a great deal of social learning and imitation required for the market to grow, similar to 'technological diffusion'.

6. The relatively low fees paid by HUD to loan originators are insufficient to make aggressive marketing worthwhile.

7. Accounting Related Regulations:

    a. Should projected increases in home values be allowed while projecting cash flows?

    b. How should a lender provide for expected future liabilities under an RM?

8. Real estate laws are state specific whereas regulations governing RM loans are national in character. If there is a conflict, state laws will prevail unless pre-empted by federal law.

9. Laws in some states are not clear on the lien priority to be granted to RM over other secured creditors, in spite of specific provisions in an RM contract.

10. Paradoxically, the Truth-in-lending Act forces an RM lender to lie, that too to his disadvantage! The Federal Reserve Board considers reverse mortgage as an 'open ended credit…secured by a consumer's principal dwelling'. So the lender must state "loss of dwelling may occur in the event of default". The main feature

of RM is that it does not involve this risk, as there is no question of the borrower defaulting on any repayment, as there isn't any!

11. What happens if a household declares bankruptcy, having borrowed through an RM?

12. Uncertainty exists on taxation of the borrower. If RM annuities were considered taxable as income of the borrower, would accrued interest on the loan be a tax-deductible expense? How will eventual capital gains be treated, especially if it accrues totally or partially to the lender?

13. The tax authorities may retrospectively (?) classify an RM as a sale of home rather than a loan, given the high probability that the entire value may ultimately accrue to the lender. If so, the borrower may suddenly find that he has lost out on one-time exemptions on capital gains.

14. The lender has to account for accrued interest as income, without any corresponding cash flow.

15. Can a RM lender offer a life annuity on his own or should it necessarily be indirect, through a life insurance company?

RM promises to be a profitable lending option in the long run. However, negotiating the regulatory minefield seems daunting.

- Definitely, there is a need for developing a political constituency catering the needs of the elderly. But who will bell the cat?

- If the first mover can obtain enforceable patents on his RM product design, he might be prepared for the long haul. But this seems unlikely.

- The first mover perhaps can create brand power. However, this may require such a firm to cater to the needs of the elderly in general and not just through RM lending. But this promises benefits from cross-selling other financial products of interest to such a target segment: health insurance, utility payment services, estate management services, pension/ annuity services etc.

The only practical course seems to be to offer products on a pilot basis and learn to resolve issues as one goes along. But this is a classic case of expecting somebody to create a public good at private costs. Even in U.S, it is the public sector that has promoted innovations in housing finance, both in the regular mortgage and RM. The HECM insurance program and Fannie Mae's role as the buyer of RM loans from originating

lenders are the two most important reasons behind even the modest success of RM so far. However, this does not imply they should be monopolies.

11. Indian Market Potential

India-specific Characteristics of Relevance to RM

- There are no universal old age social security related benefits. Only about 10% of the active working population are covered by formal schemes. This would substantially enlarge the potential target market for RM: 'house-rich, cash-poor'.

- A much lower proportion of urban households, and by implication, less scope for RM.

- A much larger proportion of elders co-living with their family members of subsequent generations and hence less scope for RM

- A possibly stronger bequeath motive, reducing the scope for RM.

- A possibly higher real rate of appreciation of real estate and housing prices, making RM more attractive to the lender.

- Widespread under valuation of real estate properties to accommodate transactions involving unaccounted money and evasion of taxes on property and real estate transactions

- Complexity, variety and location specific variations in types of home ownership[14]:

[14] We quote from [24,19]

…In urban areas the main interest was in Land Development and Planning. Some of the important legislation by the States and the Center are: West Bengal Land Development and Planning Act 1948, Delhi Development Authority Act, Madras Development Authority Act, Calcutta Improvement Trust Act 1911, Bombay Improvement Trust Act, Bombay Land Improvement Schemes Act 1942. All of these relate to the development and use of urban properties. India does not have a comprehensive real estate law even though urban land has become an important economic factor. The Development Authorities constituted under these acts have the responsibility of acquiring land and converting them to residential sites for individual use. They are given the power to raise resources through local taxes and charges, as well from land development. Typically the properties are sold to individuals on standard form lease- cum-sale agreements. These authorities have similar structures and rules, and typically have a number of lacunae. For instance there is no law to regulate developmental Housing complexes that have important, the laws relating to Mortgage, Lease and Rent Controls are often quite old and inadequate to regulate the entire gamut of real estate dealings. Almost all states developed some form of Rent Control legislation. These Acts have been criticized as being anti-developmental. The law is highly litigative requiring extraordinary long time to settle disputes. Once a building is given for rent it comes under the highly bureaucratic control mechanism under the rent controller. It is the rent controller who regulates the entire landlord tenancy relation. There

a. *Benami* holdings/ ‘Irrevocable power of attorney’

b. Leasehold/ freehold

c. Land use conversion regulations

d. Floor space regulations

e. Rent/ tenancy controls

f. Disposal of ancestral property

- Absence of competitive suppliers for immediate life annuity products. This, in turn, is a consequence of

    a. Lack of data on old age mortality rates
    b. Lack of long-term treasury securities for managing interest rate risks of annuity providers

- The fledgling nature of the secondary markets for mortgage and securitization of mortgage loans

- India specific legal and taxation issues

    a. License/ Permission required under insurance/ banking regulation for offering RM

    b. Income tax treatment for RM lender and borrower

    c. Capital gains on property

    d. Reporting and provisioning by the lender as per banking/ insurance regulation

    e. Seniority of RM claims vis-à-vis other secured lenders

    f. Status of RM loan in case of insolvency

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are protections against eviction. The grounds for eviction are limited. Prime Urban properties in Bombay, Calcutta, Madras, Delhi are covered under these laws and causing a major hurdle in their redevelopment.

Footnote 46 says:

To illustrate, almost all property transactions in Delhi are carried out under Special Power of Attorney. In other words what is transferred is not the title but a complex web of rights, which include a irrevocable Power of Attorney, a long-term lease and a will and of course physical possession. The reason is that the owner is a leaseholder, and transferring the lease is incredibly cumbersome and expensive: 50% of the unindexed capital gains were to be shared with the development authority.

Old Age Population (extracted from [1])

Though the Indian population is still comparatively ‘young’, India is also ‘ageing’. Some demographic projections for India indicate that

- The number of elderly (>60 yrs) will increase to 113 million by 2016, 179 million by 2026, and 218 million by 2030. Their share in the total population is projected to be 8.9 % by 2016 and 13.3% by 2026. The dependency ratio is projected to rise from 15% as of now to about 40% in the next four decades

- The percentage of >60 in the population of Tamil Nadu and Kerala will reach about 15% by 2020 itself!

- Life expectancy at age 60, which is around 17 yrs now, will increase to around 20 by 2020

Sources of Income Support for the Elderly in India (extracted from [1])

As of 1994, the estimated percentage among the elderly, dependent on various sources of income was as follows:

Source	**Men**	**Women**	**All elderly**
Pensions/Rent	9-10%	5%	7-8%
Work	65%	15%	40%
Transfers Of which, from Children	30% 22%	72% 58%	52% 40%

In addition, as per a survey of the National Sample Survey Organization (NSSO) in 1994, less than 4% of the elderly lived alone. A 1995-96 National Sample Survey of the elderly reported that about 5% of them lived alone, another 10% lived with their spouses only and another 5% lived with relatives/ non-relatives, other than their own children. In other words, co-residence with children and other relatives is predominant.

However, the following aspects are worrisome:

- The extent and adequacy of support, especially for widows

- Vulnerability of such support to shocks to family income

- As incomes and life expectancy rose in the now developed countries, simultaneously there was a decline in co-residence rates and intergenerational support. It may happen in India too

- Strains due to demographic trends seem inevitable: fewer children must support parents for longer periods of time. In a recent survey covering 30 cities, 70% of the respondents did not expect their children to take care of them after retirement.

- Job related migration of youth within the country and emigration.

12. Potential Market Segments

Given the above, we have attempted a first-cut specification of the potential target segment for RM:

Age Group

Above 58 years, assuming 58 is the typical retirement age. Older the individual, more attractive will be RM. Additional considerations will include the minimum age specified for preferential treatment as 'senior citizens' in matters such as income tax or the recently introduced *Varishta Bima Yojana*.

High House Equity

The current monthly annuity payout by LIC under its immediate annuity product *Jeevan Akshay* is 844 Rs for a single premium payment of Rs 1 lakh, for a person aged 65[15]. The annuity will be lower in case of joint life or annuity certain options [19]. If we were to use a minimum of Rs 5000 as the monthly annuity that makes RM a worthwhile activity, we need an RM loan of around Rs 6 lakhs. Assuming a loan to home value ratio of 60%, this implies a current market value of Rs. 10 lakhs.

Low Current Incomes Relative to Desired Standard of Living

Amongst such households, we are looking for those whose current levels of income are insufficient to afford their desired standard of living. The salary replacement rates[16] suggested in the literature, for maintaining the same standard of living after retirement as before, is around 60%. This implies a pre-retirement take home salary or income (after-tax) of around Rs 9000-10000 a month. A potential RM borrower would be one who had

[15] As noted earlier, a typical RM borrower in U.S is about 10 yrs older than the minimum eligible age of 62.
[16] As a percentage of final salary

such a pre-retirement income but no substantial pension benefits. Therefore, he would have been employed in the private sector or self-employed.

Long Tenure at Current Home

RM is attractive to a borrower especially when he values continued stay in his current residence and plans to do so for a long term into the future. This is likely when he has already stayed in his current home for a relatively longer period- say a minimum of 10 years. Additional indicators for such a desire could be a person currently resident in one’s home town/ state.

Lack of Other Supports

If such an individual is living alone, as in the case of a widower or widow, RM can make a substantial contribution to his/ her standard of living. Alternatively, the next generation may be living far away, either in India or abroad.

No Significant Bequeath Motive

Literature suggests that there is a basic conflict between taking an RM loan and a desire to bequeath property to one’s heirs. If an elderly homeowner has no children, this question may not arise. Otherwise, we need to look for attributes indicating a weak bequeath motive. For example, in the Indian context, it could mean ‘no sons’. Or it could be that the entire next generation of the family has migrated to another metro or abroad with no intention of coming back. They may be much better off than the older generation and may not value bequests, if any.

Independence and Quality of Life

A potential RM borrower must be an elderly person who values his financial independence. He must be interested in maintaining his desired quality of life rather than curtailing consumption for lack of current cash income. This implies he must be mentally prepared to consider borrowing in old age, let alone through innovative financial products like RM. This implies certain minimum education and exposure to financial savings/ assets/ markets.

13. Sources of Indian Data Relevant to RM

It is very obvious that the target segment for RM is very atypical- 'the generation past' rather than the much discussed 'generation next'[17]. Therefore it is not surprising not much data of specific relevance to RM is available. Basically we need information on the following: characteristics of households primarily of the elderly- age profile, current market value of the house, current monthly incomes and expenditures (including health care), other financial assets and sources of support, desires for bequests and so on. We also need reliable projections on mortality rates among the elderly, appreciation rates in property values in the long run, long-term interest rates etc.

<u>Housing Stock Owned and Occupied by the Elderly</u>

The Census of 2001 has published a lot of data on housing conditions. However, the tables published so far do not serve our purpose:

- No valuation of house property has been attempted (though understandably). Houses have been classified as 'Good', 'Liveable' or 'Dilapidated'; 'owned' or 'rented'; size in terms of number of rooms; urban/ rural etc.

- Even though data on the age of the head of the household has been reportedly collected, such tables have not been published yet.

We came across another recent survey, namely the National Family Health Survey (NFHS-2), conducted in 1998-99, involving a large national sample of almost 92000 households [20]. This survey's focus was on the family health status, especially of women and children. However, according to this survey,

- The age of the head of the household was 60+ in 19.2% (22.4%) of the urban (rural) households.

- About 12% of men and 43% of women above 50 were widowed.

Unfortunately, this survey does not provide any information on type of home ownership, value of houses etc.

The latest published study on the elderly in India is by researchers from the Centre for Development Studies [22].

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[17] For appreciating the difficulty of reaching such a segment see the report "O&M tries an `age-old' marketing gambit — Housing project for senior citizens" in The Hindu, May 17, 2003.

- Projections in this study, based on census data till 1991, indicate that urban areas in the states of Kerala, Tamil Nadu, Goa and the union territory of Chandigarh may provide the maximum immediate potential for RM. This is based on proportion of elderly and literacy levels.

- This study also projects the population of 'old-old', i.e., above 70 yrs, the prime target for an RM loan.

- As reported in this study, the findings of an all India survey of the elderly conducted by the NSSO in 1986-87 amongst 50000 households are as follows:

    a. Amongst the elderly, about 9.52% (12.43%) males and 0.8% (1.43%) females in urban (rural) areas lived alone.

    b. Amongst the elderly, only about 0.70% (0.82%) males and 0.48% (0.63%) females in urban (rural) areas owned any property.

- As a part of this study, a special "Ageing Survey" was conducted amongst 2253 persons above 60, in the fours states of Kerala, Tamil Nadu, Karnataka and Orissa. The reported findings of relevance to RM are as follows:

    a. There is a striking difference in widowhood across elderly males and females: 14% amongst males and 68% in females [22, Table 3.2, p.210]

    b. About 14% of the elderly live in single member or two-member households [22, Table 3.5, p.222]

    c. Amongst the elderly, around 90% of the males and 37% of females, were 'designated' as head of the household

    d. Amongst the elderly designated as heads of households, about 70% of males and 50% of females actually had ownership of the house [22, p.223]

    e. The findings on health status are as follows:

        - As per self assessment, 8.7% of males and 10.6% of females said they are 'unhealthy'

        - About 35% of both males and females reported some 'perennial' health problem. As many as 50% of males and 59% of females reported to have been bed-ridden at least once during the last one year [22, Table 3.11, p.228]

- About 34% reported vision related, 11% hearing related and 17% walking related disabilities [22, Table 3.12, p.228]

According to a report, appropriate housing for the elderly in India has a high-growth potential. This report says, "A study conducted by the Technical Committee on Population, Planning Commission shows that 52 per cent of elderly people in urban areas are living alone. There is a large segment of active old population who are living alone and are on the lookout for relaxed lifestyle". [18]

Old Age Mortality

Reliable data on mortality rates at various ages, especially amongst those above 60 is absolutely crucial for designing any RM product. Unfortunately, the only published data available is the one on annuitant lives published by LIC. This is based on the experience of LIC in their Group annuity schemes with 'return of capital on death' option, during the period 1996-98. This table covered male lives only as data on female lives was inadequate.

As this table does not cover experience on individual life annuities and female lives, this is not a reliable basis for designing an RM product involving significant mortality risks. More importantly, this cannot be compensated by any study in the near future. This is also one of the reasons behind the reluctance of private insurance companies in India to offer immediate life annuity products.

Long term Interest Rates

As discussed earlier, the loan limit or the annuity amount under an RM has to be decided on the basis of expected long-term interest rates. This represents a commitment by the lender, even though interest accumulates on a floating rate basis. Therefore, any RM lender should have access to reliable models for projecting long-term interest rates. The zero-coupon yield curve released by the NSE on a daily basis is the most widely available set of rates, based on [23].

[18] "Senior housing holds potential in Indian market", a press report on a recent survey reportedly conducted by the international property consultant, Brooke International (India) (BII). We are trying to access the report of this study of the planning commission.

Real Estate/ Housing Appreciation Rates

Unlike interest rates, projections/ assumptions have to be made for specific cities/ localities/ types of housing etc. Though credit rating agencies have recently begun rating real estate developers, no published geography specific inflation indices of property values are currently available, to the best of our knowledge.

Legal, Regulatory, Taxation and Transaction Cost Related Issues

The specific product features and required supply-side alliances to offer RM loans have to be designed with a thorough understanding of the following:

- Entry restrictions under banking and insurance laws
- Capital adequacy, reporting and provisioning by lenders as required by banking/ insurance regulation
- Legal protection for the RM lender against claims from other secured creditors and under insolvency laws
- Tax treatment of interest and capital gains in the hands of borrower and lender.
- Protection to the lender to ensure 'arm's length' pricing at the time of disposal of property
- Location specific real estate related laws and transaction costs, including title search, property valuation, stamp duties etc.
- Counselling services to potential borrowers, by independent agencies to protect adverse publicity from legal suits.
- Absence of secondary markets, mortgage backed securitization or insurance for RM loans

14. Considerations in Product Design

In this section, we focus on aspects of product design likely to be attractive from the perspective of a potential RM customer and a lender.

Customer Perspective

- Empathetic counselling from professionally competent and independent counsellors- NGOs like Help Age, Dignity Foundation, Indian Association of Retired Persons (IARP) etc., may be interested in providing such services

- Ratio of RM Loan limit to current market value of property: This will be a function of borrower's age, projected long term interest rates and property appreciation rates

- Flexibility in drawdowns: The line of credit with interest credit for unutilised portion is the most popular choice in the U.S context. The same might be true in India too. Cash may be withdrawn as and when needed, especially large amounts to meet medical and other emergencies, in contrast to a regular monthly amount. However this is vulnerable to myopic withdrawals or under pressure from relatives.

- Minimum possible RM closure costs

- Clarity in borrower's responsibility for property maintenance and paying property taxes, insurance etc. Strong legal protection against foreclosure and/ or forcible eviction based on fine print may be desirable. Alternatively, the RM lender should be willing to take over such a responsibility against deduction from RM loan limit/ annuity.

- Clarity in tax treatment of RM receipts, accrued interest, capital gains etc.

- Option to refinance in case interest rates decline substantially

- Protection against lender defaults- though not very critical.

Lender Perspective

The major concern is with respect to the risks of mortality (longevity), interest rates and property appreciation rates. There is no simple way to explore these except through financial modelling. Some alternatives for limiting risks in the learning phase have been suggested:

- Purchasing a life annuity through an insurance tie-up so that a part of the mortality risk is transferred to the insurer with the necessary core competence. Their expertise may also be used to decide on the lump sum RM loan.

- Based on the U.S experience so far, it seems better for the lender to assume responsibility for property maintenance/ taxes against deduction from RM loan limits/ annuity payments.

- Though insurance against default risk is unlikely in India, an RM lender has to charge an equivalent additional interest spread of 2-2.5%, if not more, as a default risk premium

- It seems worthwhile to explore and lobby for concessional refinance for RM loans from agencies like the National Housing Bank and for lower RM related transaction taxes.

- Given the requirement of property market related expertise at the micro-level, it might be worthwhile to focus on only one or two cities in the initial phase.

- There might be a need for tie-ups with agencies for various services- property valuation, title search, property maintenance and so on.

16. Conclusions and Suggestions

1. Reverse mortgage, if available, offers an attractive option to the elderly to finance their consumption needs on their own, without the necessity of moving out or worrying about indebtedness or repayment.

2. If designed properly and offered by an empathetic lender, RM might turn out to be the vanguard product to build up brand equity for the lender in this niche segment. Demographic projections indicate that this segment is the fastest

3. growing segment all over the world.

4. RM, if widely available, might in fact encourage more people in the working population to increase the proportion of their savings invested in housing.

5. This segment is likely to attract increasingly favourable public policy attention, given the projected importance of this segment in the electoral politics of all democratic countries.

6. However, the actual size of the RM markets is nowhere near its estimated potential, for a variety of reasons from the demand, supply and regulatory considerations.

7. Any interested RM lender in the Indian market must proceed with caution.

8. The necessary steps before a pilot RM product seem to be the following:

    a. Assessment of potential demand in a limited geographical area through

        i. A scientific market survey amongst the specified target segment
        ii. Qualitative research to explore borrower concerns and expectations

    b. Precise assessment of legal, taxation and regulatory issues related to RM

    c. Exploratory financial modelling to assess lender risk and options for managing it.

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