

How to Improve the Uptake in Reverse Annuity Mortgage



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Background and Scope

The National Housing Bank (NHB) of India, in 2008, published guidelines for reverse mortgage loans (RML) in India¹.

On February the 3rd 2023, as a part of its developmental activities, NHB invited research projects from Faculty /Research Scholars from Indian Institutes of Management (IIMs), with the overarching theme of "Housing and Housing Finance." On June the 9th 2023, they accepted this proposal from Prof. Prashant Das of IIM Ahmedabad. This document presents the deliverables from the research project.

The deliverables include:

1. Introduction to Reverse Annuity Mortgage (RAM)
2. A survey of International Successes and Failures in RAM
3. Findings from interview-based research conducted on lending market executives
4. Policy recommendations

¹ See Appendix 3 for further details

Acknowledgment

This project is a result of NHB's commitment towards the development of housing finance market in India. The NHB leadership Mr. **Sarada Kumar Hota** (Managing Director) deserves a round of applause for supporting such an endeavor. Since the proposal phase, the interest of and feedback from the Steering Committee members has helped in shaping the research.

Thank you, Steering committee members:

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2. Mr. **Vikram Deva**, DGM, NHB.
3. Ms. **Arundati Mec**, Retired CGM, RBI.
4. Ms. **Balbir Kaur**, Retired CGM, RBI.

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Prashant Das, PhD

Chapter 1. Introduction

Currently standing at nearly 10%, the share of senior citizens in India will double by 2050. Numerous government departments have been working to address the issues of senior care in the economically weaker section (EWS) and low-income group (LIG) segments. While, as a nation, we must continue to work towards those goals, in this research proposal, I focus on the middle class of India. The burgeoning middle class of India -its seniors in particular- deserve specific attention in policymaking.

Our policy framework has often treated housing synonymously with homeownership. Ensuring housing tenure security for seniors is an important policy goal; but it need not be in the form of traditional homeownership model. As the citizens age, the relevance of owning physical assets dwindles, but the need for liquid, financial assets turn increasingly critical (primarily due to increased healthcare needs).

Are their asset holdings aligned with these realities? An RBI study² portrays a contrarian picture: After retirement, the net financial assets of a senior citizen start to decline fast, although the net physical assets stay almost flat, but substantially large. According to an Agewell Foundation Report (2018)³, a large part of their physical assets, too, are simply locked into homeownership. Owned home is an asset that the hardworking middle classes are unable to consume fully during their lifetime.

The social side of the narrative debunks the motivation behind such an asset holding pattern: A majority of the 70+ population in India claims to be leading a “lonely/neglected” life². 33% of Indians have no plan for retirement and 44% do not expect to retire at all¹. 67% of the seniors are not truly satisfied with their financial situation. Interestingly, according to the SEBI Investor Survey (2015), only 10% of Indians invest with a motive of “bequest.” Having a large part of their lifetime savings locked into homeownership, despite nuclearization of families, over 50% of the senior citizens are forced to consider “children” as their source of funding during retirement, and 25% report to be clueless about their retirement financing. Yet, they express their desire (1) not to be dependent on family, (2) not to avail government facilities².

Our policy measures must safeguard the wellbeing of senior citizens, and ensure a well-deserved, dignified, and (financially) self-reliant life. Indeed, the government agencies have already taken some steps in this direction. For example, in 2019 the Ministry of Housing and Urban Affairs (MoHUA) came up with “Model Guidelines for Development and Regulation of Retirement Homes.” The report envisaged three operating models: (1) ownership, (2) lease/rental, and (3) reverse mortgage. The National Housing Bank (NHB) championed the much-needed reverse annuity mortgage (RAM) in 2007. But both the policy initiatives have experienced tepid response.

According to a study conducted at IIM Ahmedabad in 2021, 29 million households will be eligible for reverse annuity mortgage in the next 10 years, and the market size is of the order of \$200

² <https://www.rbi.org.in/Scripts/PublicationReportDetails.aspx?UrlPage=&ID=877>. 24 August 2017

³ https://www.agewellfoundation.org/wp-content/uploads/2018/07/Annual_Report-2017-18.pdf

billion. A simulation of RAM portfolio that incorporates various financial risks to the lenders suggests that it is a profitable business.

Anecdotal evidence suggests that during 2014-15, 24 banks and housing finance companies (HFCs) issued Rs. 17,000 crore (approx. \$150 million) in RAM. Yet, this is much smaller compared to \$120 billion mortgage⁴ loan issued in 2022 alone. Why has RAM not become a popular mortgage product despite its benefits to both the supply and demand sides? This research project seeks to answer the following questions:

Research Questions

1. What are the supply-side roadblocks to RAM?
2. How is RAM perceived on the demand side?
3. How could policymaking be tweaked for an effective market for RAM?

This study primarily focuses on the supply (lending) side executives who were interviewed over several months. Interviewees were also asked to adopt a “demand side” perspective for RAM. Thus, the study also presents some views from potential customers of the product.

This report is structured as follows: First, it introduces a sample RAM contract to describe its anatomy. Then it describes the risks and benefits of RAM to lenders and borrowers. Further, it describes the RAM market across various nations citing academic research and anecdotal evidence. Then, the methodology and findings of primary research are laid out. Finally, the report offers policy recommendations to improve the uptake of RAM in India.

⁴ <https://epaper.bizzbuzz.news/Home/ShareArticle?OrgId=611042f6046&imageview=0>

Reverse Annuity Mortgage

This section presents a summary of how reverse annuity mortgage (RAM) works. While RAM contracts may vary in their nuances, it is important to build a common ground for further discussions.

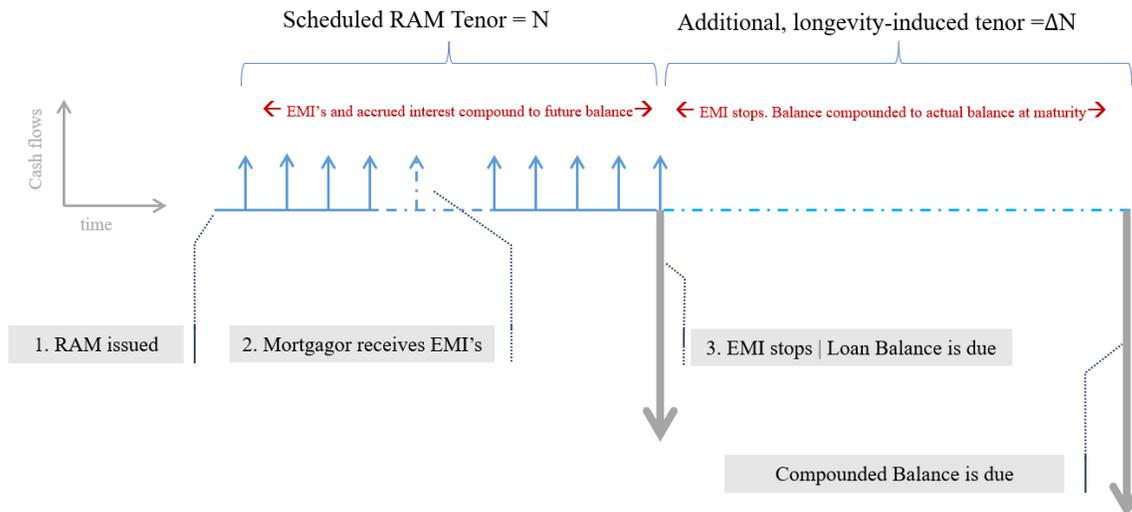
Persona

For simplicity, we assume that a married senior citizen couple (“Mrs. and Mr. Senior”) opt to reverse mortgage their home in which they have 100% equity. Towards their retirement, they sign a RAM loan (“RML”) with a lending institution (“lender”). The contract stipulates an annual interest rate, compounded monthly. The loan is scheduled to mature in N years. Until then the lender pays seniors a fixed EMI. At the scheduled maturity, all the EMI advances and accrued interests come due as the loan balance. **Exhibit 1** describes the working.

Example

A retiree owns a home worth Rs. 1 crore and agrees to take RAM over a period of 10 years. The lender agrees to make monthly payments. The loan-to-value ratio (LTV) is 50% and the fixed, annual nominal interest is 10%. The monthly draws by the retiree, if the first draw takes place at the end of the first month will be Rs. 24,409. If the draws start immediately at the time of signing the contract, they will be Rs. 24,207. At the end of 10 years, the seniors would have Rs. 50 lacs as the loan outstanding balance⁵.

Exhibit 1. Working of a Simple RAM Contract



Source: Author

To reach the market-related challenges and policy interventions, it is important to appreciate salient aspects of the contract. A lender cannot evict Senior’s until both pass away. If they are alive at the scheduled maturity, EMIs will stop⁶, but the outstanding balance will continue to compound itself at the contractual interest rate. Let us characterize this time as the “Actual Maturity.”

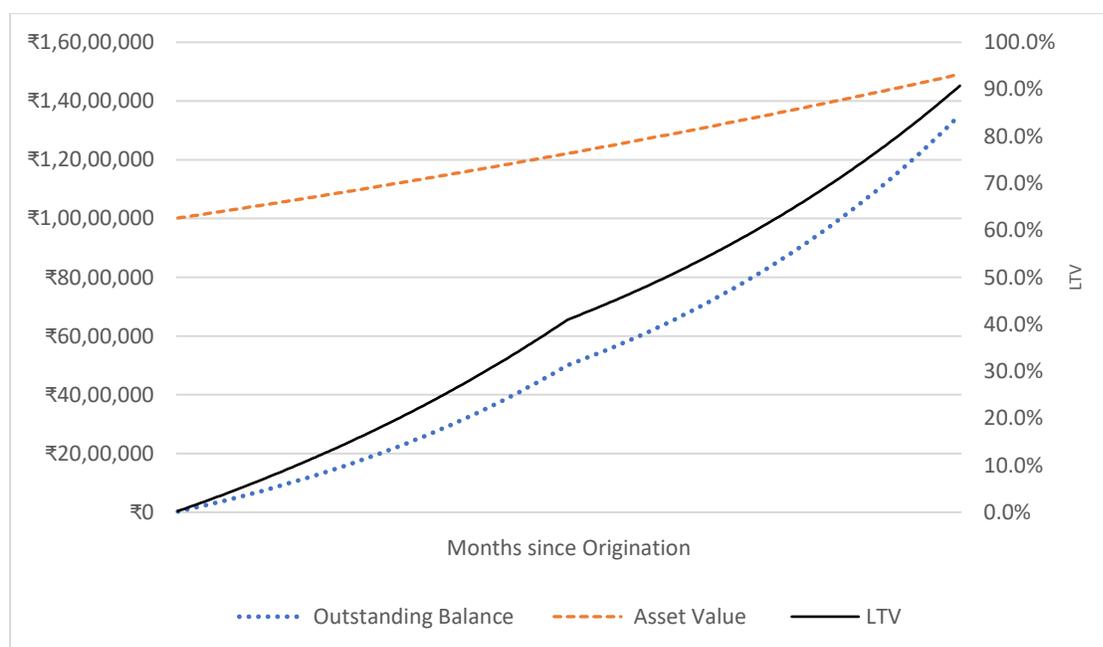
⁵ **Appendix Exhibit 12** presents the amortization schedule of this loan.

⁶ Note that fixed number of EMI’s represents a specific type of RAM. Many RAM’s offer lifetime EMI that would require including actuarial analytics.

When both Seniors pass away, the lender has two options:

1. Notify the legal heirs. The heirs can make the lender whole by paying the outstanding amount. In our example, the actual maturity takes place 20 years after the RAM origination. At the actual maturity, the heirs could pay Rs. 1.35 crores to acquire the asset worth Rs. 2.22 crores. The outstanding balance could be refinanced from another mortgage loan.
2. Liquidate the asset. The proceeds will first be used to pay the outstanding balance off, and the residual amount will go to the legal heirs. This will be 40% of the asset value (i.e., nearly Rs. 87 lacs) at that time.

Exhibit 2. Evolution of LTV, Loan Balance, and Asset Value after Origination



Source: Author.

In an RML, the lender can estimate the loan due at maturity. Lenders tend to adopt multiple risk-protection measures as follows:

1. LTV in RAM is usually lower than the LTV in traditional mortgage characterized by similar borrowers and assets being financed. In the example above, while traditional mortgage would have an LTV of 80%, RAM LTV is assumed to be 50%.
2. More importantly, lenders apply the LTV to the future, outstanding balance of the loan. Then, one should expect the collateral value to appreciate. **Exhibit 2** assumes a modest, 4% (CAGR) appreciation in asset value. At the scheduled maturity (10-years), the LTV falls to 33%. In other words, a 50% RAM LTV implies only a 33.5% effective LTV at maturity. In present-value terms, the LTV is low (i.e., 18%). This risk protection is excessive.

- After the scheduled maturity, the balance Rs. 50,00,000 compounds at the interest rate (10%). At the Actual Maturity date, the outstanding amount is Rs. 1.35 crores. However, the asset value appreciates (4% per year) to Rs. 2.2 crores implying an LTV of 61%.

Let us continue with the example of Seniors, that own a Rs. 1 crore home that is offered as collateral for RAM in a 10-year monthly compounding contract. The APR is 10%. In **Exhibit 3**, we contemplate how the EMIs differ across different definitions and levels of LTV applied. Column-1 assumes a traditional, 10-year mortgage. Column-2 describes the prevalent RAM. In the last column, we assume that LTV is the ratio of the present value of all advances, and denominator is the current collateral value. All else equal, the EMI variation across these types of contracts are presented in the last row.

Exhibit 3. Analysis of RAM LTV

	Traditional Mortgage	Current RAM	Proposal RAM
RAM LTV [Definition]	$\frac{PV[Advances]_{orig}}{Collateral\ Value_{orig}}$	$\frac{FV[Adv]_{maturity}}{Coll.\ Val.\ _{orig}}$	$\frac{PV[Adv.\]_{orig}}{Coll.\ Val.\ _{orig}}$
RAM LTV [Contractual]	80%	50%	50%
PV[Advances]	₹ 8,000,000	\$1,831,770	₹ 5,000,000
FV[Advances]		₹ 5,000,000	\$13,648,000
EMI	₹ 105,721	₹ 24,207	₹ 66,075

In the proposed RAM, the LTV is applicable to the gross present value of the advances. Note that this LTV is already smaller than the traditional LTV. Yet, the EMI increases substantially, from Rs. 24,000 to Rs. 66,000. In this case, at maturity, the total loan outstanding will be Rs. 1.4 crore, but with a modest appreciation (4%) assumption, the home value will have appreciated to Rs. 1.5 crores.

Risks to the Lenders

Longevity Risk

Traditional mortgage loans are faced with default and prepayment risks. RAM lenders are also faced with the longevity risk. Let us consider two plausible scenarios:

- Scenario1: The scheduled RAM term outlives both Seniors. This case is similar to prepayment risk in traditional mortgage. The lender must redeploy the scheduled RAM payments into other assets.
- Scenario 2: Seniors outlive the scheduled RAM term. This case delays the receipt of scheduled loan balance to an uncertain future date. If RAMs are securitized, then the pool must hedge for duration risk.

Collateral Risk

- Market Risk: All mortgage contracts are faced with the risk of underlying real estate markets. If the loan goes “underwater” (i.e., collateral value falls below the outstanding

balance), the lender must book a loss that leads to yield degradation. RAM is not immune to this risk.

2. **Maintenance Risk:** As RAM mortgagors gradually lose their equity in their home, they may be less motivated to maintain the asset adequately. Lack of maintenance may also stem from the seniors' health conditions.

Litigation Risk

At the maturity of the loan, especially after both seniors pass away, lenders may be faced with legal risks posed by the heirs. Even if the lenders' position is likely to prevail, the court cases may delay the cash flow receipts and the frictions may degrade the yield.

Benefits to the Lenders

No Risk of Default

Unlike in traditional mortgage, reverse mortgagors cannot strategically default. Beyond the collateral risk, the borrower risk is minimal. There may be some prepayment risk.

Large Market

RAM is a profitable and large market that will only grow in the coming decades.

Reduced Cash flow Pressure

Traditional mortgage loans are disbursed as a lumpsum. With an equivalent amount a lender can multiply the customer portfolio around 300 folds⁷. This implies a much larger revenue in terms of origination fees and portfolio diversification.

Enhanced Risk Protection

Traditional mortgage loan underwriting applies the loan-to-value (LTV) criteria to the value of the collateral at the time of the application. A lower LTV policy implies additional safety cushion against the fall in the collateral's market value.

Higher yield

Interest rate on RAM is usually higher than traditional mortgage.

Benefits to the Borrowers

Esteem and Liquidity

Seniors enjoy financial autonomy in terms of liquid capital. The RAM cash flows may help with their cash flow needs such as healthcare, children's welfare, etc. If heirs are not interested, the cash thus availed can be utilized in any other fashion.

Wealth Enhancement and Flexibility

Those seniors who do not need the additional cash flow can reinvest the advances in higher yielding investments, or simply pass it on to their heirs. When invested prudently, the future value of these investments could exceed the outstanding loan balance. The legal heirs could use the proceeds to pay off the balance and pocket the additional wealth thus created.

⁷ From our example, with 80% LTV, each new mortgagor relationship requires Rs. 80,00,000 in a lumpsum cashflow. With a 50% LTV, the lender disburses less than Rs. 25,000 per borrower at the outset. This implies that one traditional mortgage is equivalent to $\frac{80,00,000}{24,408} = 328$ RAM contracts.

No Risk of Losing the Tenure

RAM allows the possession of the property despite the maturity of the loan, and lenders' covenants on the collateral asset.

Risks to the Borrowers

Perceptual Risk

Seniors must be counselled by experts so that they can communicate their intent effectively with their legal heirs. The irrational negative perceptions about RAM can compromise the seniors' relationship with their heirs.

Premature Termination/ Foreclosure by the Lender

Seniors must carefully understand the loan covenants and avoid situations that may lead the lender from recognizing a default in covenants.

Market Size

A study conducted at IIM Ahmedabad (Thakur & Nistane, 2021) estimates a market for RAM well over \$200 billion. To estimate the potential of reverse mortgages, the study obtained housing and home ownership data from National Sample Survey Organization (NSSO) 2018. Using state-wise demographics (Census) and housing conditions (NSSO) and home ownership, a combined population profile was developed to estimate the market size for reverse mortgage contracts. The eligible households must fulfil the age and tenure (homeownership) criteria and must dwell in pucca houses.

In 2011, this meant 23 million households. This is much larger than the market size estimated in other nations. For example Ma & Deng (2013) estimate the market size to be nearly half a million borrowers in South Korea. In China, nearly 200 million persons are over the age of 60. Considering a 2-person household and 90% homeownership rate, the total market potential for RAM in China is 90 million. With a 25% take up, the RAM market size matches with India's.

The household income data determines its debt-service capability which, in turn, determines the value of the home it can afford. This value was randomly assigned to each household. The study, then, simulated lifespan of 10,000 married couples using the life-expectancy data (Life Tables) provided by the Census of India (2010). A RAM would not mature until both the spouses pass away. Home value appreciation (due to market forces) and depreciation (due to maintenance) were randomly assigned to each household based on historical distributions and assumptions. Based on the simulated data the study estimates the number of EMIs, and resale value of property (minus the liquidation costs and legal fees).

Most RAM contracts, as expected, either under-live or outlive the scheduled maturity. The floor and ceiling of RAM LTV are established within 40% and 70%. The output of the simulation suggests that nearly 11-15% of the RAM contracts may fall into loss with a severity of nearly 30%. Overall IRR of the lender's portfolio lies between 8-8.4% (when the RAM interest rate is 10%) that is roughly 150 bps below the estimated yield to maturity. This is, apparently, higher than the average IRR on traditional mortgage portfolios.

The study concludes: "With an average ticket size of ₹25 lacs, the total size of the RAM market in India is roughly around ₹ 70 Tr. (US\$ 860 billion). With increased awareness and social acceptance, if we capture just 25% of this market, it is still worth \$200 billion.

Chapter 2. International Experience

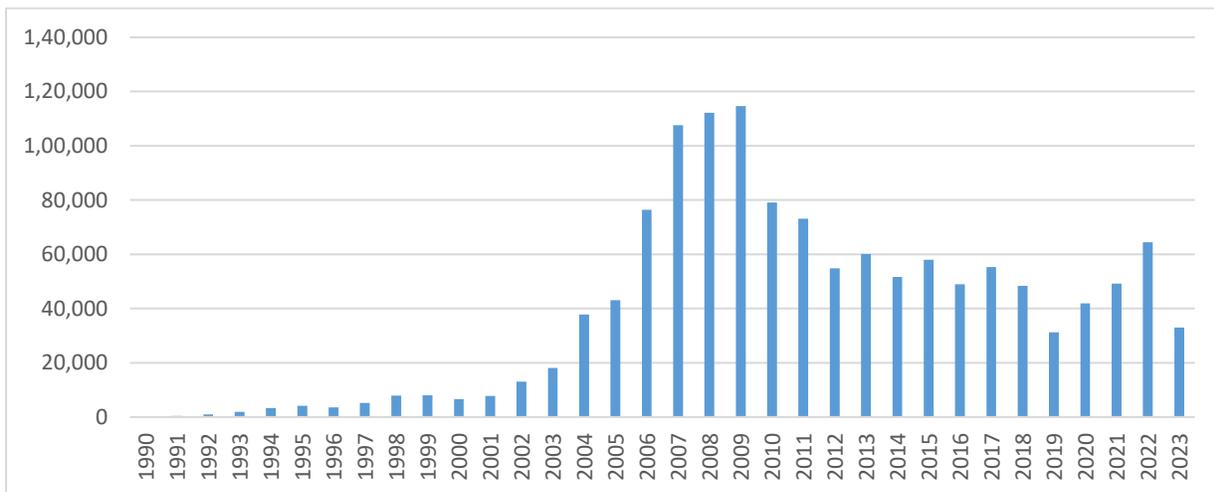
According to Global Equity Release Roundtable 2020 survey report published by The European Pensions and Property Asset Release Group (EPPARG) and EY, globally \$ 15 billion RAM loans are issued annually, and the market size will treble by 2031. Securitizers, banks and insurance firms are the most prominent issuers. Lifetime mortgage is the most popular RAM product that includes fixed-and floating rate loans.

USA

In the US, RAM is a prominent component of Home Equity Conversion (HECM) program championed by the Federal Housing Administration (FHA). The FHA Reverse Mortgage (RM) program was established by the Housing and Community Development Act of 1987. RAMs are available to 62 years⁸ (or older) US homeowners who own their homes with free and clear titles. FHA provides mortgage insurance to RAM lenders and protects borrowers against lenders' inability to continue loan disbursements. The insurance premium is borne by the borrowers. Since 1990, USA has witnessed 1.3 million RAM issuances. **Exhibit 4** depicts the trends in RAM issuance in the US.

Mayer & Moulton (2022) argue that US seniors consider RAM as spending of their equity that they would rather keep for “precautionary savings for health shocks and bequest motives.” As a result, they prefer new mortgage credit e.g. Home Equity Line of Credit (HELOC), cash-out refinancing, etc. that imply large repayments in the future. The study highlights that in 2018, while 33,000 RAMs were originated, the number of HELOC originations was 20-folds larger (609,000).

Exhibit 4. HECM Loan Production in the US



Source: Author. Data source: HUD

Europe

In the United Kingdom (UK), insurance firms have originated most of the reverse mortgage loans (S&P Global Ratings, 2023). In recent years some banks and non-banks have entered the market.

⁸ In India, it is 60 years

According to the Equity Release Council, UK has witnessed £6 billion RAM issued in 2022 alone. The market size could double in the next 8 years⁹. European lenders' RAM policies enforce "No negative equity guaranty" (NNEG) wherein the mortgagor's liability is limited to the collateral value although the outstanding loan may exceed the asset value.

Exhibit 5. Selected European RAM Markets

	U.K.	Spain	The Netherlands	Ireland	Sweden
Typical products	Lifetime mortgage home reversion plan	Lifetime mortgage	Lifetime mortgage	Lifetime mortgage home reversion plan	Lifetime mortgage
Market size	>£1.5 billion	<€0.5 billion	>€0.5 billion <2.0 billion	<€0.5 billion	<€0.5 billion
Main originators	Just, Aviva, Legal & General, Standard Life, Nationwide Building Society, Scottish Widows, Pure Retirement, More2Life	Óptima Mayores, Banco Santander	SocioHypotheek, Florius	Spry Finance, Home Plus	Svensk Hypotekspension, Bluestep Bank
No negative equity guarantee*	Yes	Yes	Yes	Yes	Yes
Rate type(s)	Fixed (or if variable a cap must apply)	Fixed or variable	Mainly fixed	Mainly fixed	Variable
Prepayment option	Yes*	Yes	Yes§	Yes	Yes
Industry body	The Equity Release Council, European Pensions and Property Asset Release Group (EPPARG)	European Pensions and Property Asset Release Group (EPPARG)	European Pensions and Property Asset Release Group (EPPARG)	European Pensions and Property Asset Release Group (EPPARG)	European Pensions and Property Asset Release Group (EPPARG)
Regulator	Financial Conduct Authority	Banco de España	Dutch Financial Authority (AFM)	Central Bank of Ireland	Finansinspektionen
Main funding sources	Insurance companies†	Banks and insurance companies†	Banks and insurance companies†	Non-bank lenders	Bank
Previous securitizations	Yes	No	No	Yes	Yes

*Legacy loans may not have this feature. §Some products have the flexibility to make monthly interest payments.

†Remain on balance sheet.

Source: S&P Global

⁹ <https://www.spglobal.com/ratings/en/research/articles/230726-reverse-mortgages-in-europe-product-growth-has-yet-to-spur-securitization-12796775>

Exhibit 5 presents a comparison of RAM across selected European nations. As RAM allows homeowners to release their equity into cash, it is a type of home “equity release (ER)” instrument. The European Pensions and Property Asset Release Group (EPPARG¹⁰) is a trade body for the ER industry. France, Finland and Netherlands are three nations with local EPPARG contacts. Some Western European nations (E.g. UK, Germany, Spain, Italy, Sweden, Norway, Poland, Portugal, and Ireland) host EPPARG representatives. Some other nations such as Hungary, Romania, Austria and Czech Republic have some presence of ER.

Other Nations

Australia

In Australia, RAM is increasingly popular. Between 2008 and 2017, the loan books doubled from \$1.3 billion to \$2.5 billion¹¹ suggesting a 7% CAGR. This is espoused with rise in property values. Tight regulations forced several lenders to discontinue the product, although a few banks continue to offer the product.

Canada

The Canadian Home Income Plan (CHIP)¹² was established in 1986. Homeowners 55 years or older can access up to 55% of their home value tax free either as a lumpsum or as monthly payments. According to Morningstar¹³ the market is estimated to be worth \$6 billion and is poised to grow. So far, only 0.6% of senior citizens have RAM.

Hong Kong

Hong Kong introduced a RAM program in 2011 through the Hong Kong Mortgage Corporation (HKMC), although the rollout has been slow. A RAM in Hong Kong implies monthly payouts for a fixed period of 10, 15, or 20 years. In the first ten years since its introduction, just over 2,500 homeowners have gone for RAM.

Taiwan

In Taiwan, RAM is governed by the Land Bank of Taiwan, and was introduced in 2011¹⁴. Taiwan Cooperative Bank was the first to launch RAM in the country. Taiwan allows commercial, farmhouse as well as residential properties for RAM. Taipei City witnesses over 3,000 applications per month¹⁵, and the applications are growing at a rate of roughly 10% per year. Currently, 15 lending institutions in Taiwan offer RAM.

South Korea

The Korean Home Pension (KHP) program promotes RAM in South Korea. By 2016, there were nearly 30,000 RAM subscribers. The Korean Housing Finance Corporation (KHFC) has been relaxing several features of KHP since then to make it more attractive to the market. A remarkable feature of KHP is that it ensures no risk of discontinuation in RAM EMIs. Such contracts posit

¹⁰ www.epparg.org

¹¹ <https://mozo.com.au/home-loans/resources/guides/reverse-mortgages-what-are-they-and-how-do-they-work>

¹² www.chip.ca

¹³ <https://www.advisor.ca/industry-news/industry/growing-reverse-mortgage-market-faces-risks-dbrs/>

¹⁴ <https://taiwantoday.tw/news.php?unit=2,23,45&post=1093>

¹⁵ <https://www.taipeitimes.com/News/biz/archives/2022/10/18/2003787221>

longevity as a prominent risk. As a result, academic research (Choi et al., 2020; Ma & Deng, 2013) on RAM in Korea has focused on actuarial analysis of the market potential. Also, RAM in Korea has been more popular among wealthier households¹⁶.

Singapore

NTUC Income, an insurance co-operative in Singapore introduced RAM in 1997. Only 20-odd customers opted for it in the first month. In 2006, OCBC Bank partnered with NTUS Income. By 2009, the two institutions discontinued RAM due to low demand¹⁷.

China

In 2014, China Insurance Regulatory Commission introduced a 2-year pilot program for RAM in four metros: Beijing, Shanghai, Guangzhou and Wuhan. A 2019 pilot program in China by Happy Life Insurance found “almost no take-up of such products¹⁸.”

Malaysia

In 2022 National Mortgage Corporation of Malaysia (Cagamas) introduced Skim Saraan Bercagar, a RAM product in Malaysia. By April 2023, over 25 such loans were issued nationally¹⁹. Cultural barriers are cited as dampeners to the growth.

Japan

In 1981, Mushahino City in the Tokyo Metropolitan Area introduced a RAM program that was dissolved in 2015. In 2002, The Ministry of Health, Labor and Welfare introduced a national level RAM program that was further enhanced in 2007. These welfare-oriented RAM programs did not see much success. However, in 2005, the “deposit collateralized reverse mortgage” introduced by the Tokyo Star Bank had received nearly 5,000 applications until 2015. The total RAM outstanding was estimated at around 10,000. These RAMs mean zero interest rate until the amount drawn exceeds the number of deposits of the borrower. Nearly 80 lenders in Japan offer RAM and the number of applicants has been growing fast in recent years, although standing at low levels²⁰.

Securitization

Lack of capital poses a major roadblock to the development of RAM markets. Securitization can help in providing liquidity to RAM originators. Quercia (1997) argues that in the US, the success of RAM programs depends on how mortgage debt and property values evolve over time. According to S&P Global Ratings (2023) while some RAM securitizations have performed well, the issuances have been rather few, and limited to the UK, Sweden, and Ireland. As lenders are comfortable with RAM on their balance sheets, portfolio sales of RAM, too, have been limited. Excessive counterparty exposure is cited as a main reason for the low take-up.

According to a 2020 report by Moody’s²¹, the following risks are paramount in assessing the ratings for reverse mortgage-backed securities:

¹⁶ <https://reversemortgagedaily.com/articles/wealthier-koreans-more-likely-to-have-reverse-mortgages-in-that-country-data-suggests/>

¹⁷ <https://dollarbackmortgage.com/blog/reverse-mortgage-singapore/>

¹⁸ <https://vochina.org/show-3-129.html>

¹⁹ <https://www.thestar.com.my/business/business-news/2023/04/25/cagamas-retirement-product-gaining-ground>

²⁰ <https://reversemortgagedaily.com/articles/reverse-mortgage-uptake-in-japan-grows-over-40-through-end-of-2021/>

²¹ <https://ratings.moody.com/api/rmc-documents/67107>

1. **Home price risk:** elderly are less likely to repair or refurbish their homes. Home prices may outgrow a safe LTV threshold.
2. **Mortgage Maturity Risk:** This depends on the longevity (or morbidity) risk and prepayment propensities.
3. **Interest rate risk:** This is particularly salient when RAM is fixed-rate.
4. **Liquidity risk:** Structured RAM bonds usually pay regular coupons. If the pool does not generate adequate cash, lenders must go through a stress test on their reserves.

Chapter 3. Primary Research

The primary research of this project focused on the supply side of the RAM market in India. The subjects were also asked to adopt the demand-side perspective.

Method

First, a set of potential interviewees were identified through word-of-mouth. The subjects comprised of senior managers from mortgage lending institutions. A retired, senior executive of NHB who was actively engaged with the RAM implementation (Mr. RV Verma) was also interviewed.

All interviews were conducted either by the research assistant, or the principal investigator via Zoom between July and October of 2023. The structured interview had some closed-ended and some open-ended questions. The Zoom interviews were recorded (if the subjects permitted) for transcription purposes. After transcription the videos were deleted. The interview responses were subjectively analyzed and processed into policy recommendations.

Subjects

The study engaged with 17 subjects. 10 agreed to be identified while others preferred to participate anonymously. The subjects vary in a wide range of age and represent different parts of India. Three subjects are female. **Exhibit 6** lists the subjects.

Exhibit 6. List of subjects

SN	Name	Gender	Age	Org.	Designation	City
1		M			Head- Loans	
2		M	55		General Manager	Mumbai
3	Ram K Das	M	53			Chennai
4		M	47		Head- Affordable Housing	Bengaluru
5		M	52		Dep. Gen. Manager	Amaravati
6	Prabhash Kumar	M	59			Mumbai
7			53		Sr. Vice President	
8	Raj V Verma	M	68	NHB	Managing Director (Rtd)	Delhi
9		M			Asstt. Gen. Manager	
10	Ram Bilas Agarwal	M	65	PNB	Chief Manager	Jaipur
11	Rahul Kumar	M	32			Bhopal
12		F	26		Deputy Manager	Ahmedabad
13	Alok Ranjan	M	31	Axis Bank	Credit Manager	Noida
14	Nitasha	F	35			Alwar
15	Sanjay K Sharma	M	36			Delhi
16	Noopur Lal	F	29			Patna
17	Prem K Singh	M	43	SBI	Chief Manager	Ahmedabad

Findings
Closed-ended Questions

The frequency diagram of closed end interview questions is presented below.

Exhibit 5. Awareness of RAM

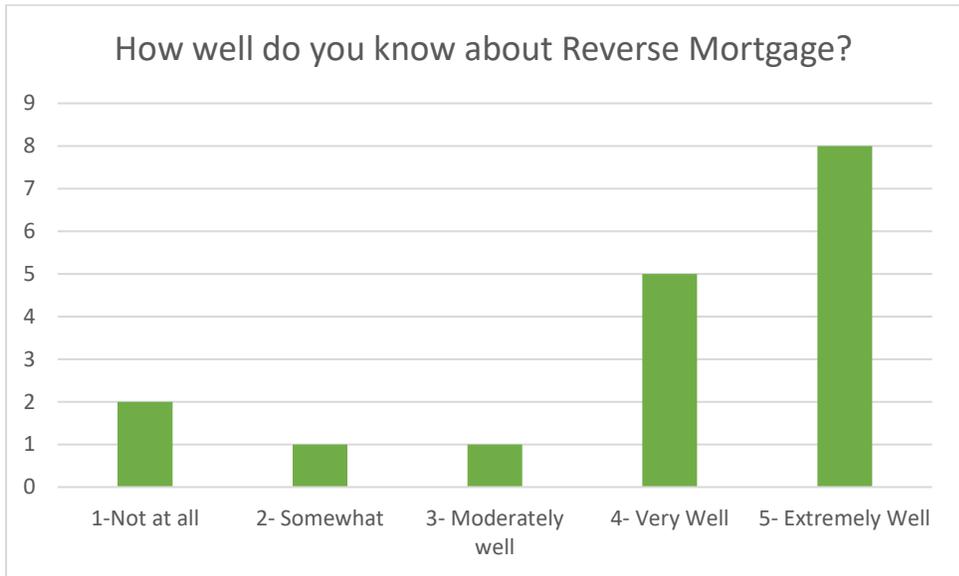


Exhibit 5 suggests 75% of the respondents claim that they are aware of RAM as a product.

Exhibit 6. Awareness of Bank’s RAM Policy

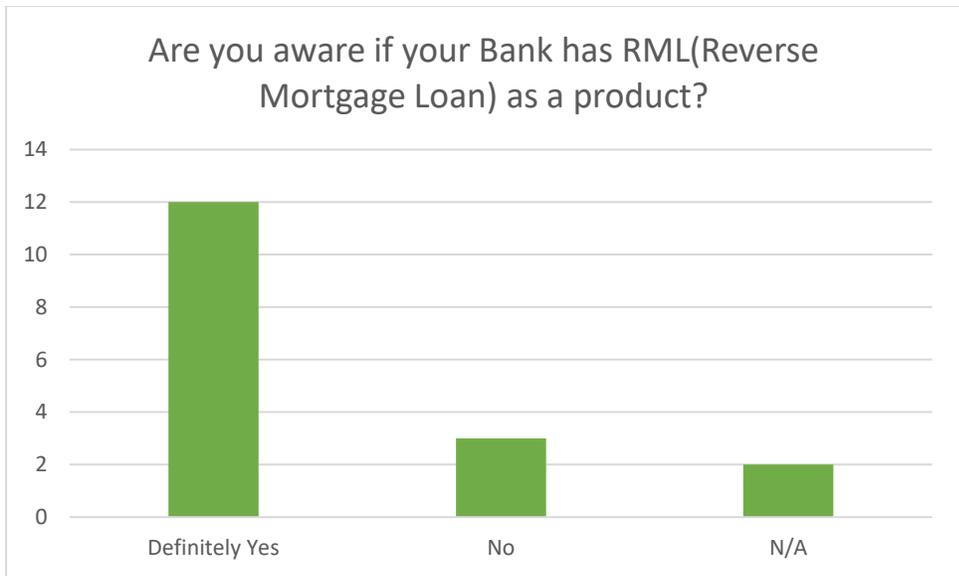


Exhibit 6 suggests 70% of the respondents say they are aware whether their bank offers RAM as a product or not.

Exhibit 7. Awareness of Bank’s RAM Activity

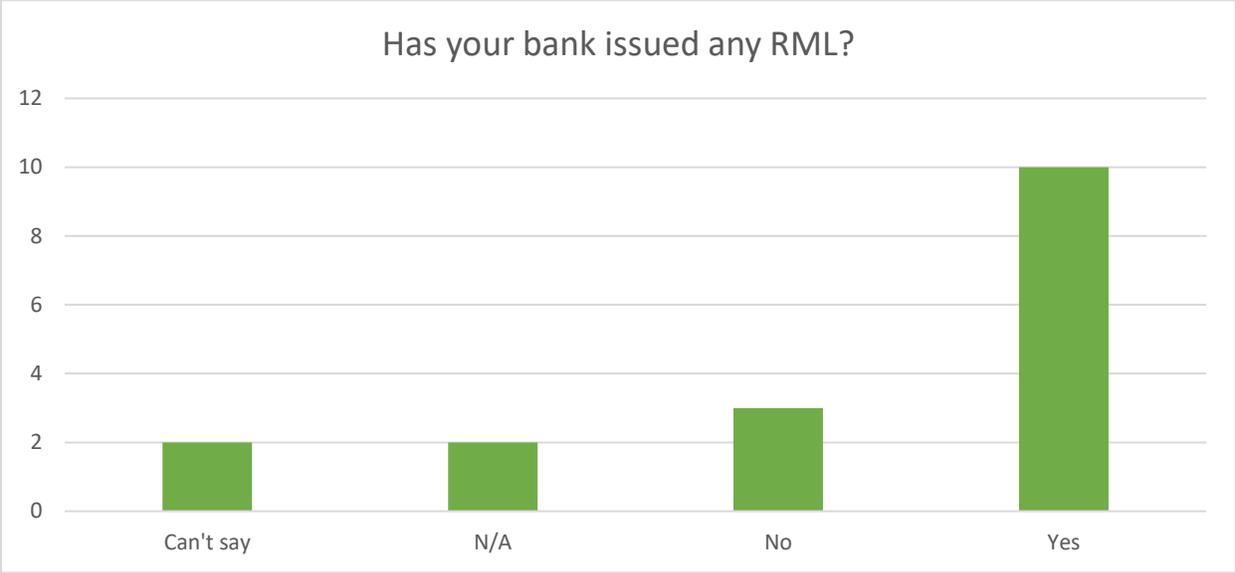


Exhibit 7 suggests 60% of the respondents claim that their bank has issued RAM. 20% are confident that their bank has never issued RAM. The remaining 20% are not sure.

Exhibit 8. Opinion on Attractiveness of RAM

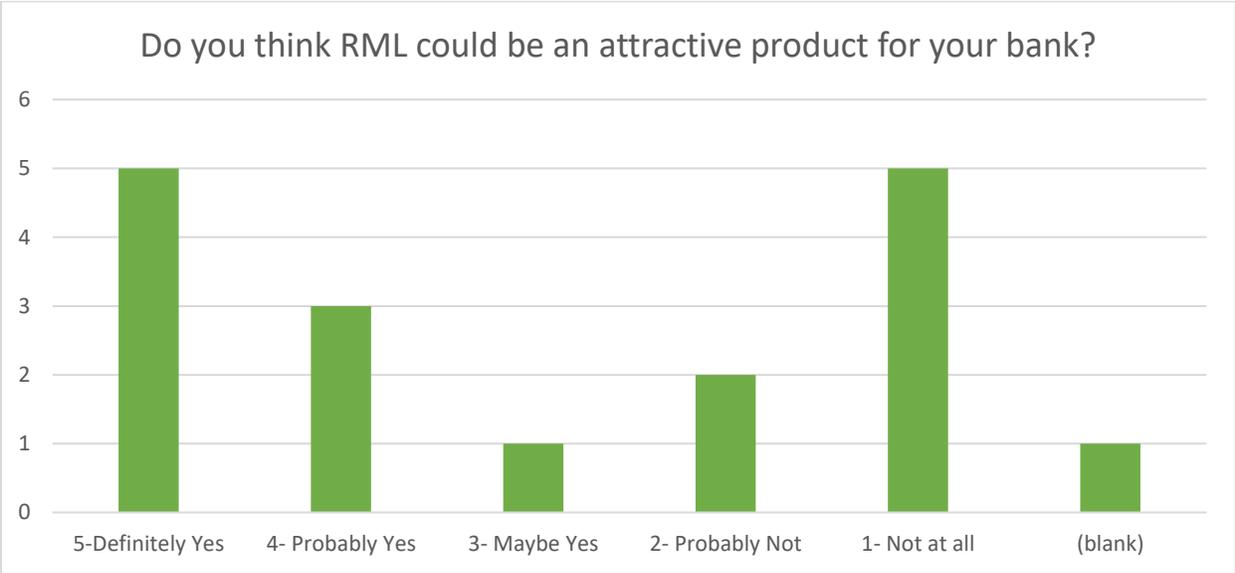


Exhibit 8 suggests that the distribution of opinions on RAM is binodal. Few people are neutral. 50% of respondents believe that RAM could be a profitable product for their institution. 40% believe the contrary. 30% of the respondents are emphatically negative about the prospects of RAM.

Exhibit 9. Self-Adoption Potential for RAM

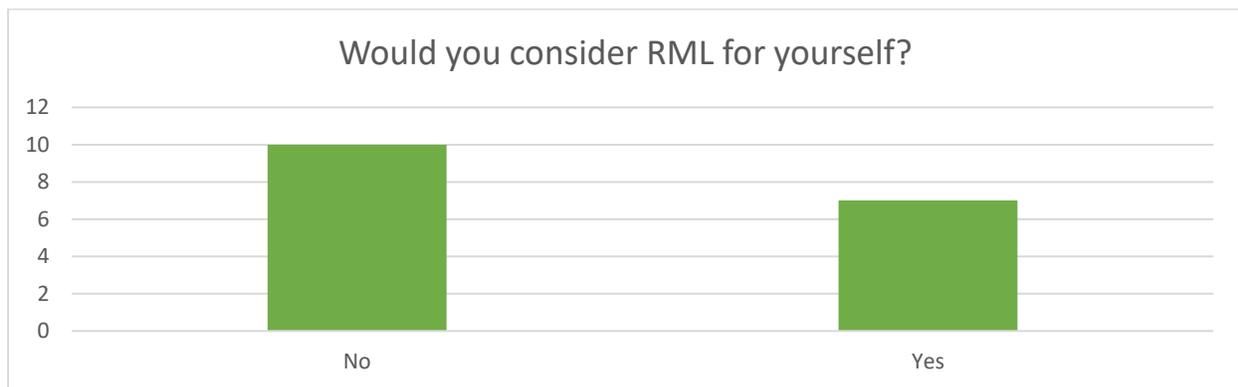


Exhibit 9 suggests 40% of the respondents would opt for RAM. Those who showed interest in adopting RAM offered the following reasons:

1. RAM allows an otherwise idle asset to be used as liquidity.
2. Proceeds from RAM can be reinvested for a higher return.
3. My children should not need to inherit property from me. I can support them in many other ways.
4. Property is just a means of wealth creation. Emotional attachment to real property is irrational.
5. It is important for senior citizens to be financially self-reliant. Children who care will appreciate the self-esteem of their parents.
6. Reverse mortgage EMI does not incur any tax.
7. It is particularly beneficial to those who do not have a regular pension stream.

60% of the respondents hinted that they would not opt for RAM themselves. Those who are not in favor of adopting RAM offered the following reasons:

1. I desire to bequeath the property to children.
2. I wish to get a lump-sum amount rather than EMIs. So, to monetize my property, I would rather go for Loan-Against-a-Property (LAP). Then, I will re-invest the advances in a higher-yielding investment.
3. I do not wish to “mortgage” my property.
4. RAM means “announcing that my children are not there for me when I need them.”
5. I am hoping that my legal heirs will take care of me in the old age.
6. The current features of the product are not attractive.
7. I earn pension. There is no need for RAM.
8. RAM interest rate is high.
9. I need to pay off my existing mortgage first.
10. I am uncomfortable at the prospect of losing my property.
11. My financial conditions are not bad enough to opt for RAM.

Exhibit 10. Potential for Parent’s Adoption of RAM

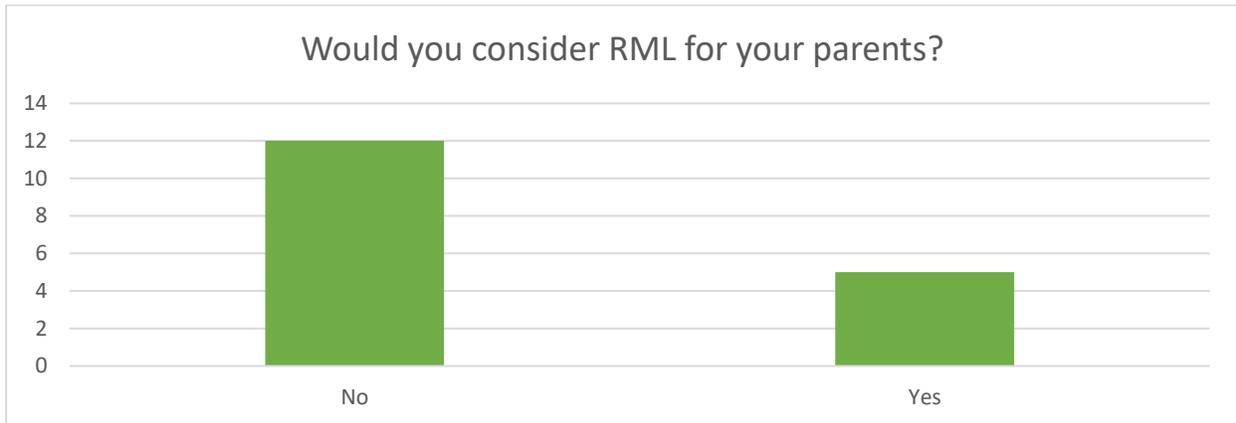


Exhibit 10 suggests that only 30% of the respondents state that they would consider RAM for their own parents. Reasons stated for considering parents for RAM include:

1. I own my own house, and do not need to inherit one from my parents.
2. I would let my parents “enjoy their hard-earned wealth locked-in their house and use that money for their own expense.”
3. My parents can use the liquidity for themselves, as their children do not need any financial support from them.

Reasons stated against considering parents for RAM are as follows:

1. My widowed mother does not need the excess cash. We take care of her needs.
2. RAM is for seniors in financial distress. It would make me feel that I am not doing enough for my parents.
3. The parents’ property will, anyway, be passed on to children.
4. I would not consider it for my parents, as I do not consider it for myself either.
5. Parents and children are attached to inherited property. Such property should not go out of the family.
6. My father earns a pension. He does not need that extra cash.
7. I expect to inherit the property from my parents.

Open-Ended Questions

What can be improved in the RAM product?

Respondents identified several issues with the current state of RAM as a product as well as a market. This section provides a summary of the combined feedback.

“[RAM] must be designed properly... It has cultural, commercial, social, economic, security and old age aspects. It is a challenging product, but it has great relevance. It may not apply to all families... but the appeal is high for the policy makers, for the market participants, for the beneficiaries.”

-RV Verma, MD (retd.), NHB

“...A condition [with RAM] is that the mortgaged property should be self-acquired and self-occupied...Normally, if someone has multiple properties they don't want to mortgage their primary residence... it will pass on a message that the person is in financial distress..”

-Prem Singh, Chief Manager, Public Sector Bank

The "Pitch" for RAM

- People do not like to see their assets "mortgaged."
- RAM appears to be a sign of distress.
- There is little enthusiasm for the product.

Lack of Awareness

- Only a few potential mortgagors in bigger cities are aware of RAM, if at all.
- Most bank managers are not aware of the product.
- There are no standard regulations.

Product Design of RAM

- Interest rates are too high.
 - EMIs are too low.
 - LTV is too low.
 - The collateral is restricted to primary residence.
 - There are undue restrictions on the use of the advances.

Underwriting and Processing

- The loan issuance process is cumbersome for seniors.
- Asset valuations are not fair.

Suggestions for Improving the market for RAM

One of the respondents opined: "Government policy is secondary. The mindset of the people has to change." However, several constructive suggestions were presented that are summarized below:

“RML is best suited product for senior citizens as it gives financial stability and assurance in the event of crisis. Government should take initiative for the publicity of this product.”

- Manager, Private Sector Bank

Awareness

- Promote literacy program and awareness drives.
- Recruit "brand ambassadors" for the product.
- Incentivize/mandate lenders for issuing and publicizing the product.
- Bank branches must be trained.
- Branches must be mandated to showcase RAM as a potential product to seniors.

“Government has launched so many schemes such as BIMA Yojana, MUDRA Yojana, PM- Vishwakarma Loan etc. RBI could provide guidelines to banks and mandate them to target RML such as 50 Reverse Mortgage Loan per month... As Banks maintain database of customers, they can send message to 60+ citizens about Reverse Mortgage Loan features and how they can avail it.”

- Manager, Public Sector Bank

Regulation

- Introduce standard regulation.
- Include RAM in priority Sector Lending.
- Introduce flexibility in mortgagor and asset criteria.
- Reduce the threshold age.
- Allow non-primary residence to be reverse-mortgaged.
- Remove restrictions on the use of RAM advances. Allow all legal uses.
- Make asset acquisition easier for lenders.

“Government should provide support in form of any guaranty as there are many cases where there is less amount recovered from Reverse Mortgage Loan. Some Financial Institutions should also support banks in recovery from this product.”

- Manager, Public Sector Bank

Product Enhancement

- Provide subsidies and guarantees to lenders.
- Increase the LTV.
- Increase transparency in asset valuation.
- Involve insurance firms.
- Digitize property auctions.

Synopsis of Interviews

As most interview participants are senior managers from lending institutions, it is not surprising that they are aware of RAM as a product. We reached out to several relatively junior-level managers for the study. However, after a first round of introduction to the topic, most of such potential interviewees opted out. The research staff noted that several of such potential interviewees felt uncomfortable talking about the product that they were not aware of.

There is a noticeable portion (25%) of the respondents who are not aware whether their institution has ever issued a RAM, or even offers RAM as a product. Views about whether RAM is attractive to lenders are split. 30% are emphatically optimistic and 30% are emphatically pessimistic.

Respondents inclined towards RAM take a dispassionate, economic stand. Financial independence of senior citizens, unlocking equity into cash flows, and tax benefits are prominent rationales.

These respondents view RAM as a tool for family welfare, and do not see it as unfavorable to heirs. Sometimes, however, there is an underlying tone that RAM is a sign of distress.

Respondents averse towards adopting RAM, too, are driven by a perception that RAM signals financial distress. They feel that RAM implies parents' lack of willingness to let their children inherit the property. To them, it also signals social distress: parents would opt for RAM when their children fail to take care of them, both financially and in terms of care. In other words, parent-children relationship is pitted against the adoption of RAM. Some are concerned about the risk of losing their property, others do not feel a need for RAM given their financial status.

Those respondents who would consider RAM for their parents, again, take a view that their parents should enjoy superior financial autonomy and self-esteem. To them, impediments to inheriting parental property are not a major concern.

However, most respondents expressed their lack of enthusiasm towards their parents adopting RAM. This is often driven by perceptual concerns: how does it reflect on children when the parents go for RAM? If the parents have no financial distress, why should they "mortgage" their property? Assets passed on to children from parents should be in terms of property rather than cash.

Discussion

The Challenge of Perception

Among the more informed, senior managers or executives in the mortgage lending space, there is substantial enthusiasm about RAM. However, traces of being uninformed about several aspects of the product are not absent. From our failure in recruiting younger managers for the interview, we reckon there is a pervasive lack of awareness of the product. Some concerns expressed by the respondents warrant due attention.

These concerns relate to the social or perceptive features of RAM. Several respondents perceive RAM as a sign of distress. To them, RAM appears to be a product more suited when:

1. Senior citizens are in financial distress.
2. Senior citizens are not cared for by their children.
3. Senior citizens are averse towards passing their wealth on to their children.

The positioning of the product must address these concerns. With some improvements in the product, RAM should be positioned as a financial prudent decision that adds to the social welfare by enhancing the self-esteem and financial self-reliance of citizens. Indeed, for homeownership seniors who do not earn pension, RAM can serve as an effective source of cash flows. However, for others who do not have a strong motivation to keep their home within their family across generations, RAM can be a beneficial product. So long as the opportunity cost of capital (i.e. returns from investing the EMI) is higher than the effective cost of RAM, this product could simply be used as a wealth enhancement too. At maturity, the seniors can not only pay off the outstanding debt, but also hold additional wealth that could be passed on to children.

Lack of Awareness

Lack of awareness about RAM both on the supply (lender) and demand (seniors) side is an equally serious issue. With awareness campaigns, several misperceptions about the product could be removed. For example, some respondents express their concern related to “Potential Loss of Property” due to RAM. Indeed, RAM gradually shifts equity in the property from seniors to the lending institution. However, with prudent use of advances (i.e., benefiting from financial leverage), the property could be re-acquired either by the seniors, or their heirs. In cases where children have no use for the parents’ property, inheriting it may rather come with other challenges. In those cases, too, RAM could serve as a prudent decision, both for heirs and seniors.

Unattractive Product Features

Improvements to the product design are critical to popularizing the product. This can happen via regulatory and fiscal measures adopted by the government. The ‘no negative equity guarantee’ poses risks to the lenders. Promoting insurance products that support RAM originations can be helpful. At the final maturity, it should be easier for lenders to get hold of the collateral without going through inefficient legal processes. On the other hand, unfair valuation, high interest rates and low LTV render RAM unattractive to borrowers. Easing the underwriting process, relaxing restrictions on the borrower characteristics and collateral assets, and reducing the cost of capital will make RAM attractive to borrowers. FinTech innovation (in collateral transaction, asset valuation) and government subsidies could help spur the initial demand for RAM.

Learning from the Global Experience

According to Mayer & Moulton (2022), “Reverse mortgages have long been viewed with skepticism by some retirees, financial planners, and financial institutions.” High costs, unethical sale practices, and potential loss of homes by retirees are cited as main concerns. Authors wonder why similar concerns persist in many countries despite differing financial systems. Whait et al. (2019) suggests that RAM is unpopular in Australia due to a “strongly negative views” about the product. The study suggests that the negativity may be overcome “through a redesign aimed towards reducing these perceived risks (i.e., high interest rate and charges, potential loss of the asset, etc.)

The Global Equity Release Roundtable 2020 survey report by The European Pensions and Property Asset Release Group (EPPARG) and EY highlights the barriers to growth to this market; and attributes it to two main factors: (1) lack of customer awareness; and (2) insufficient funding. Chan (2002) cites two obstacles to the development of RAM in the US: declining demand and a lack of private sector competition. Indeed, the volume of RAM fell drastically after its peak during the global financial crisis (GFC) of 2007-09. However, The US boasts of numerous private sector players that issue RAM nowadays. For over a decade, the HECM World²² organization has been ranking top-100 HECM lenders.

Whait et al. (2019) suggests that RAM is unpopular in Australia due to “strongly negative views” about the product. Some study participants suggested their aversion due to a desire to bequest the asset to their children. However, Hanewald et al. (2020) debunks that the bequest motive is a major roadblock to the development of RAM. The study argues that improved customer awareness and

²² <https://hecmworld.com>

more attractive product features are key to success: “89% of older Chinese homeowners would be interested in this new reverse mortgage product, and 84% of adult children would recommend such a product to their parents.”

Shan (2011) shows that a third of the growth in the American RAM market between 2003 and 2007 was due to increasing home prices. Kobayashi et al. (2017) offers a similar explanation for a low uptake of RAM in Japan. In addition to being a social asset, a home also pays ‘dividend’ in the form of imputed rent (Mayer & Moulton, 2022). Senior homeowners are reluctant to sell their homes as their home provides a “hedge” against outliving their assets. Beyond the imputed rent, RAM offers an additional stream of cash flows while insuring the tenurial status of seniors.

According to the managing Director of a Hing Kong mortgage agency²³, “The idea (of RAM) is good, but the government needs to step up its promotion of the program and let the public know that it has this option.” Respondents at the 2020 Global Equity Release Roundtable Survey (London) conducted by Earnst & Young suggested following changes for RAM markets:

1. More lenders
2. Introduction of product standards
3. Availability of funding
4. More mainstream products
5. Creation of industry body
6. Government endorsement
7. Bespoke regulation

The Korean Home Pension Program promises lower interest rates than traditional mortgage contracts, lower taxes (e.g., cess) and property tax benefits to RAM subscribers. In Taiwan, property owners can pledge residential, commercial as well as farmhouses for RAM²⁴. In this country, the RAM applications have recently witnessed a double-digit growth. According to their Ministry of Finance website, in a RAM contract: “the maximum (EMI) period shall be 30 years, and the total number of the period plus the borrower's age shall not be less than 95; 30 years for those under the age of 65; If the collateral is jointly owned by a married couple, the loan period is calculated on the basis of the younger age.”

²³ <https://www.scmp.com/business/article/3131267/hongkongers-should-use-reverse-mortgages-lock-stable-incomes-and-overcome>

²⁴ <https://www.mof.gov.tw/eng/singlehtml/6960?cntId=85283>

Chapter 4. Policy Recommendations

After surveying the academic literature, anecdotal evidence and reviewing the synopsis of the primary research, this section presents policy recommendations.

Awareness Program:

An overwhelming proportion of respondents pointed towards lack of awareness both among customers and bank managers related to RAM, although the underlying tone for RAM is positive. NHB could consider allocating a substantial budget for the awareness program. Multiple ministries/ departments could be asked for their support including The Ministry of Social Justice and Empowerment and Ministry of Finance (RBI, in particular). RAM could be included in the Schemes for The Welfare of Senior Citizens. Some tools for the awareness program could include:

- a. **Capacity Building:** Capacity building is aimed at increasing the supply-side awareness about RAM. Banks must be encouraged to educate the frontline managers on the product.
- b. **Advertisement Campaigns:** The demand-side concerns, many of which are irrational, can be addressed via TV, Newspaper, conferences, radio, signages, etc. could be utilized to spread awareness about the product.
- c. **Repositioning:** RAM must be positioned as a prudent financial decision so that the public can dissociate from an overwhelming perception related to a sign of financial or social distress.
- d. **Renaming:** Renaming the product with a fairer description will be a critical step. Instead of terming it as a “mortgage,” the product could be termed differently. The “Equity Release”, “Housing Pension,” etc., as used in several countries could be more appropriate.

Regulation

- **Regulatory Committee & State-List Matters:** A dedicated regulatory body/committee (including ombudsperson) could be constituted to ensure fairness. Further, the committee could facilitate state-level co-operation to pull support from local governments (e.g. district collector) for family records data (birth/death etc). This will help in ensuring that liquidation of the collateral, or dealing with the legal heirs at the actual maturity are simple for lenders.
- **PSL:** RAM could be included within the priority-sector lending requirement with a specific portion (from 40%) dedicated to such products.
- **Underwriting Standards:** The current underwriting standards can be tweaked to render the product as attractive.
 - **Interest Rate:** The interest rates applicable to such products must be regulated. Guaranties and insurances should help in this regard.
 - **LTV:** The LTV should be applicable to the gross Present Value (PV) of the advances rather than to the Future Value [See **Exhibit 2**]. This will make the RAM advances more attractive to seniors.

- **Guaranty:** “No negative equity guaranty” (NNEG) is an essential component of European RAMs wherein the mortgagors’ liability is limited to the collateral. NHB could consider offering such guaranties to lenders. Passing this task on to third-party vendors is another possibility [described below].
- **Taxation of Lenders:** In the current setup, a lender parts from the cash flows (i.e., monthly RAM advances) until the contract matures. Till then, the advances accrue interest (that is taxable at the lenders’ end). To facilitate the market growth, here are some suggestions:
 - **Taxation of Interest:** Neither the borrower should be allowed to deduct the accrued interest, nor should the lenders have to recognize the accrued interest as taxable income.
 - **LTCG:** Lenders could be allowed to recognize the total accrued interest at the actual maturity as a long term capital gain (LTCG) for a favorable tax treatment.
 - **GST:** Prepayment on RAM could be freed from GST.
- **Use of Advances:** Once the reverse EMI is paid to the seniors, they should be free to use it the way they prefer (so long as it is legal). Any oversight/ restriction on the use of advances is counterproductive. For example, seniors should be allowed to invest the advances in financial markets without restriction. The lenders could offer counselling/advice to customers that they are particularly concerned about.

Product Design

- **Borrower Criteria:** RAM is available to 62 years²⁵ (or older) US homeowners. However, in India it is 8 years lower. In Canada, 55 years is the minimum age for RAM. The minimum age for RAM eligibility in India could be reduced to 50 years. Several senior care facilities in India, too, follow this criterion.
- **Collateral:** If the purpose is to help seniors unlock liquidity from their wealth, existing restrictions on the RAM collateral must be relaxed. Taiwan allows commercial, farmhouse as well as residential properties for RAM. Seniors with multiple real estate assets (of any type: commercial or residential) should be able to choose the one they wish to pledge.
- **Tenancy:** Currently, the collateral must be the primary residence of seniors. Staying away from the collateral is restricted. Removing this restriction gives more freedom to seniors.
- **Nature of advance:** Unlike the example described in Chapter 1, RAM advances could be disbursed in several ways. All of these should be adequately advertised:
 - Line of Credit
 - Price-level (inflation) adjusted payments
 - Graduated payment
 - Lifetime annuity

In some countries (e.g., South Korea) RAMs promise no discontinuation in EMIs. For guarantying lifetime annuity requires actuarial estimates. Insurance firms are dominant RAM players in the UK. However, this report recommend starting with simpler (fixed

²⁵ In India, it is 60 years

annuity term) products. They have been successful elsewhere such as in the US and Hong Kong. Lenders (e.g. insurance firms) should, however, be allowed to introduce flexible products.

Institution Building and Engagement

Industry Body: In Europe, EPPARG is an overarching industry body championing the promotion of RAM. The regulations are from Central banks. NHB could support the creation of an industry body that involves activism related to RAM. The body could comprise of lending institutions, insurance firms and non-profits oriented towards senior care.

Insurance/ Guaranty: For the risk management of lenders, an ecosystem needs to be created that helps render products like NNEG, property insurance etc. affordable.

FinTech: Private-party engagement from businesses can help improve the uptake of the product. Some respondents complained about cumbersome underwriting process for physically compromised seniors. To reduce facetime with the seniors, especially during the origination, NHB could engage with FinTech firms and seek help/ promote innovation on the following fronts:

- Automated valuation
- Application processing
- Continuous due diligence
- Property insurance

Securitization: USA, UK, Sweden, and Ireland have been successful in securitizing RAM. Promoting securitization of RAM could further help with fostering the market. RAMs could lead to a large variety of Zero-coupon bonds (ZCB) with staggered maturity. Trading of such ZCBs could be attractive to numerous institutions looking to hedge their duration risk.

Conclusions

RAM has been introduced in several markets of the world. In the US, over 30,000 RAMs are originated each year. In the UK, £6 billion RAM were issued in 2022 alone and the size is expected to double within a decade. In Australia, the market was worth \$2.5 billion in 2017, and has been growing at a CAGR of 7%. Taiwan witnesses RAM originations comparable with the US, despite its small population. However, Home Equity Line of Credit (HELOC) contract originations in the US are 20-folds higher than RAM. In Canada, only 0.6% of senior citizens have RAM. Nevertheless, the RAM markets in these nations have been growing steadily.

Growth in RAM is often tied to property price appreciation, as observed in Taiwan, USA and Australia. Similarly, stagnant home prices explain low uptake of RAM in Hong Kong. RERA, demonetization etc. led to corrections in the housing markets, but also has helped in rationalizing them. Over time, the housing price trends will mature and will automatically provide impetus to the development of RAM markets.

With the introduction of standard regulations, awareness campaigns and some modifications to the product, RAM can be successful in India. Government bodies, organizations, individuals, and institutions could join hands in advocacy. Promoting RAM will help achieve numerous goals: it will support the growth of financial markets and add to the welfare of senior citizens. As RAM adds financial prudence to homeownership that is otherwise questionable, it may also support the growth in real estate markets, housing finance sector, construction industry, and construction materials sector.

Some of the recommendations made in this report require interaction with numerous government entities, and some are long term in nature. However, there are numerous interventions that are well within the scope of NHB, and could be developed further for implementation.

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Appendix

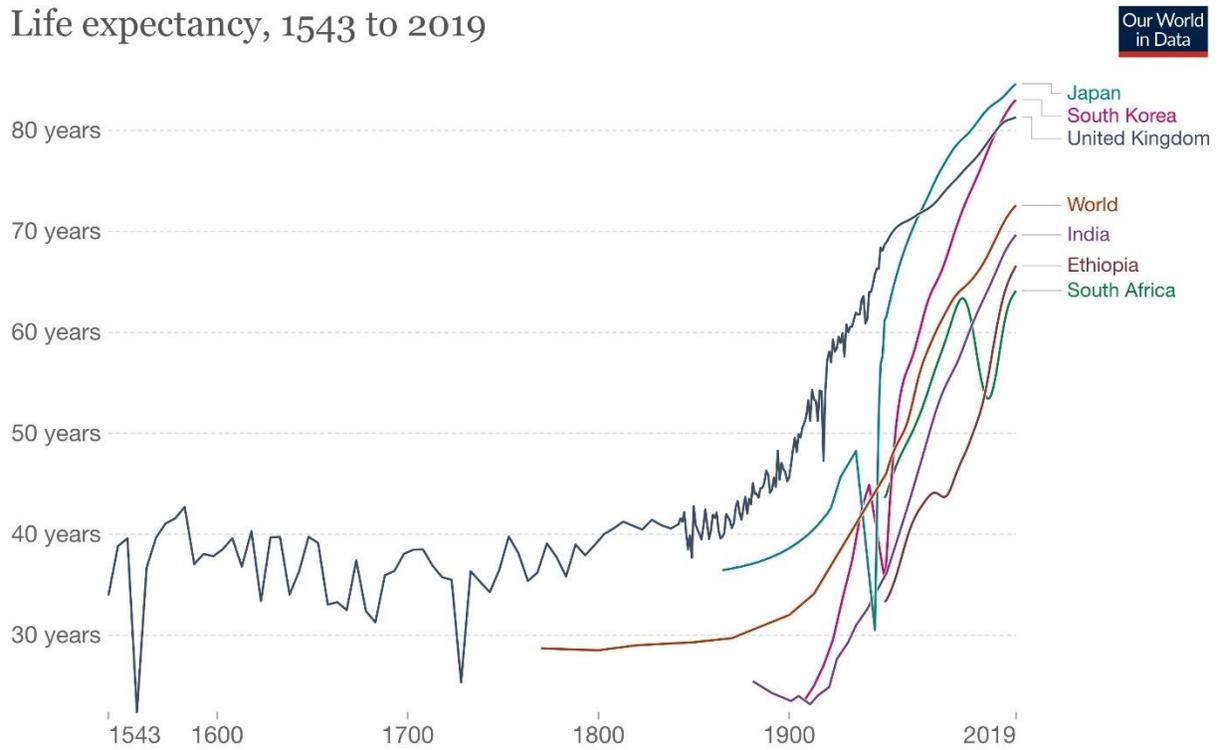
Exhibit 11: Snapshots of the Amortization Schedule

RAM with a 10-year scheduled maturity, monthly EMIs, 50% LTV and 10% (nominal) interest rate for an underwritten asset value of Rs. 1 crore. The asset value appreciates by 4% per annum. One of the senior mortgagors outlives the scheduled maturity by 10 years.

Month	Beginning Balance	EMI	Interest Accrued	Outstanding Balance	Asset Value	LTV
1	₹ -	₹ 24,207	₹ 202	₹ 24,409	₹ 10,033,333	0.2%
2	₹ 24,409	₹ 24,207	₹ 405	₹ 49,021	₹ 10,066,778	0.5%
3	₹ 49,021	₹ 24,207	₹ 610	₹ 73,838	₹ 10,100,334	0.7%
4	₹ 73,838	₹ 24,207	₹ 817	₹ 98,862	₹ 10,134,001	1.0%
5	₹ 98,862	₹ 24,207	₹ 1,026	₹ 124,095	₹ 10,167,781	1.2%
6	₹ 124,095	₹ 24,207	₹ 1,236	₹ 149,537	₹ 10,201,674	1.5%
7	₹ 149,537	₹ 24,207	₹ 1,448	₹ 175,192	₹ 10,235,680	1.7%
8	₹ 175,192	₹ 24,207	₹ 1,662	₹ 201,061	₹ 10,269,799	2.0%
9	₹ 201,061	₹ 24,207	₹ 1,877	₹ 227,145	₹ 10,304,031	2.2%
10	₹ 227,145	₹ 24,207	₹ 2,095	₹ 253,447	₹ 10,338,378	2.5%
115	₹ 4,614,859	₹ 24,207	₹ 38,659	₹ 4,677,725	₹ 14,662,320	31.9%
116	₹ 4,677,725	₹ 24,207	₹ 39,183	₹ 4,741,114	₹ 14,711,195	32.2%
117	₹ 4,741,114	₹ 24,207	₹ 39,711	₹ 4,805,032	₹ 14,760,232	32.6%
118	₹ 4,805,032	₹ 24,207	₹ 40,244	₹ 4,869,483	₹ 14,809,433	32.9%
119	₹ 4,869,483	₹ 24,207	₹ 40,781	₹ 4,934,471	₹ 14,858,797	33.2%
120	₹ 4,934,471	₹ 24,207	₹ 41,322	₹ 5,000,000	₹ 14,908,327	33.5%
121	₹ 5,000,000	₹ -	₹ 41,667	₹ 5,041,667	₹ 14,958,021	33.7%
122	₹ 5,041,667	₹ -	₹ 42,014	₹ 5,083,681	₹ 15,007,881	33.9%
123	₹ 5,083,681	₹ -	₹ 42,364	₹ 5,126,045	₹ 15,057,908	34.0%
124	₹ 5,126,045	₹ -	₹ 42,717	₹ 5,168,762	₹ 15,108,101	34.2%
125	₹ 5,168,762	₹ -	₹ 43,073	₹ 5,211,835	₹ 15,158,461	34.4%
126	₹ 5,211,835	₹ -	₹ 43,432	₹ 5,255,267	₹ 15,208,989	34.6%
232	₹ 12,561,104	₹ -	₹ 104,676	₹ 12,665,779	₹ 21,641,925	58.5%
233	₹ 12,665,779	₹ -	₹ 105,548	₹ 12,771,328	₹ 21,714,065	58.8%
234	₹ 12,771,328	₹ -	₹ 106,428	₹ 12,877,755	₹ 21,786,445	59.1%
235	₹ 12,877,755	₹ -	₹ 107,315	₹ 12,985,070	₹ 21,859,066	59.4%
236	₹ 12,985,070	₹ -	₹ 108,209	₹ 13,093,279	₹ 21,931,930	59.7%
237	₹ 13,093,279	₹ -	₹ 109,111	₹ 13,202,390	₹ 22,005,036	60.0%
238	₹ 13,202,390	₹ -	₹ 110,020	₹ 13,312,409	₹ 22,078,386	60.3%
239	₹ 13,312,409	₹ -	₹ 110,937	₹ 13,423,346	₹ 22,151,981	60.6%
240	₹ 13,423,346	₹ -	₹ 111,861	₹ 13,535,207	₹ 22,225,821	60.9%

Exhibit 12 Life Expectancy Trend across Nations

Life expectancy, 1543 to 2019



Source: Riley (2005), Clio Infra (2015), and UN Population Division (2019)

OurWorldInData.org/life-expectancy • CC BY

Note: Shown is period life expectancy at birth, the average number of years a newborn would live if the pattern of mortality in the given year were to stay the same throughout its life.

Summary of NHB Guidelines on RAM

Reverse Mortgage Loans (RMLs) are to be extended by Primary Lending Institutions (PLIs) viz. Scheduled Banks and Housing Finance Companies (HFCs) registered with NHB or any other class of institutions as may be notified by Government of India. The prospective borrowers should use that residential property as permanent primary residence. Permanent primary residence refers to the self-acquired, self-occupied residential property where a person spends majority of his/her time. Factors that may be relevant in this regard include the address used for general correspondence, utility bills, bank statements, tax return, bank accounts and banking relations etc. Use of RML for speculative, trading and business purposes shall not be permitted. The RML shall be secured by way of mortgage of residential property, in a suitable form, in favor of PLI. Commercial property will not be eligible for RML.

Eligible Borrowers:

- Senior Citizen of India above 60 years of age.
- Married couple will be eligible as joint borrowers for financial assistance. In such a case, the age criteria for the couple would be at the discretion of the PLI, subject to at least one of them being above 60 years of age and the other not below 55 years of age.
- Owner of a self-acquired, self-occupied residential property (house or flat) located in India, with clear title indicating the prospective borrower's ownership of the property.
- The property should be free from any encumbrances.
- The residual life of the property should be at least 20 years.

Eligible Amount:

The PLIs will have the discretion to determine the eligible quantum of loan reckoning the 'no negative equity guarantee' being provided by the PLI. The methodology adopted for determining the quantum of a loan, including the detailed tables of calculations, the rate of interest and assumptions (if any), shall be clearly disclosed to the borrower. The PLIs would ensure that the equity of the borrower in the residential property (Equity to Value Ratio - EVR) does not fall below 10% at any time during the tenor of the loan.

The PLIs will need to re-value the property mortgaged to them at intervals that may be fixed by the PLI depending upon the location of the property, its physical state etc. Such revaluation may be done at least once every five years, the quantum of loan may undergo revisions based on such re-valuation of property at the discretion of the lender.

Nature of Payment

The maximum loan disbursement tenure should not exceed 20 years. The nature of payments will be decided in advance as part of the RML covenants. The PLI, at their discretion, may consider providing options to the borrower to change. All covenants/ conditions stipulated by the PLIs shall be disclosed to the borrower in advance. Any or a combination of the following is permitted:

- Periodic payments (monthly, quarterly, half-yearly, annual) to be decided mutually between the PLI and the borrower upfront. The maximum monthly payments shall be capped at Rs.50,000/- or such other amount as may be notified by the Government of India.
- Lump-sum payments in one or more tranches. Lump-sum payments may be conditional and limited to medical exigencies. The maximum lump-sum payment shall be restricted to 50% of

the total eligible amount of loan subject to a cap of Rs.15 lakh or such other amount as may be notified by the Government of India, to be used for medical treatment for self, spouse and dependents, if any. The balance loan amount would be eligible for periodic payments.

- Committed Line of Credit, with an availability period agreed upon mutually, to be drawn down by the borrower.

Interest Rate

The interest rate to be charged on the RML to be extended to the borrower(s) may be decided by PLI in the usual manner based on risk perception, the loan pricing policy etc. and specified to the prospective borrowers. Fixed and floating rate of interest may be offered by the PLIs subject to disclosure of the terms and conditions in a transparent manner, upfront to the borrower.

Taxation

All payments under RML are exempt from income tax under Section 10(43) of the Income-tax Act, 1961.

Settlement of Loan

The loan shall become due and payable only when the last surviving borrower dies or would like to sell the home, or permanently moves out of the home for aged care to an institution or to relatives. The borrower(s) or his/her/their heirs/estate shall be provided with the first right to settle the loan along with accumulated interest, without sale of property. A reasonable amount of time, say up to 2 months, may be provided when RML repayment is triggered, for the house to be sold. The balance surplus (if any) remaining after settlement of the loan with accrued interest, shall be passed on to the legal heirs/estate/beneficiaries of the borrower.

Prepayment of Loan by Borrower(s)

The borrower(s) will have an option to prepay the loan at any time during the loan tenor. There will not be any prepayment levy/penalty/charge for such prepayments.

Loan Covenants

The borrower(s) will continue to use the residential property as his/her/their primary residence till he/she/they is/are alive, or permanently move out of the property, or cease to use the property as permanent primary residence.

Non-Recourse Guarantee: The PLIs shall ensure that all reverse mortgage loan products carry a clear and transparent 'no negative equity' or 'non-recourse' guarantee.

In addition, the PLI may also consider, at its discretion, obtaining a Registered Will from the borrower stating, inter-alia, that he/she has availed of RML from the PLI on security by way of mortgage of the residential property in favor of the PLI, meaning thereby that in the event of death of the borrower (and co-borrower, if any), the mortgagee is entitled to enforce the mortgage and recover the loan from the sale proceeds on enforcement of security of the mortgage.

The PLI will ensure that:

- the borrower(s) has insured the property against fire, earthquake, and other calamities.
- borrower(s) pay all taxes, electricity charges, water charges and statutory payments.

- borrower(s) are maintaining the residential property in good and saleable condition.

Foreclosure

The loan shall be liable for foreclosure due to occurrence of the following events of default.

- If the borrower has not stayed in the property for a continuous period of one year
- If the borrower(s) fail(s) to pay property taxes or maintain and repair the residential property or fail(s) to keep the home insured
- If borrower(s) declare himself/herself/themselves bankrupt.
- If the residential property mortgaged to the PLI is donated or abandoned by the borrower(s).
- If the borrower(s) effect changes in the residential property that effect the security of the loan for the lender. For example: renting out part or all of the house; adding a new owner to the house's title; changing the house's zoning classification; or creating further encumbrance on the property either by way taking out new debt against the residential property or alienating the interest by way of a gift or will.
- Due to perpetration of fraud or misrepresentation by the borrower(s).
- If the government under statutory provisions, seeks to acquiring the residential property for public use.
- If the government condemns residential property (for example, for health or safety reasons).

Option for PLI to Adjust Payments:

The PLI shall have the option to revise the periodic/lump-sum amount at such frequency or intervals based on revaluation of property, which in any case shall be at least once every five years. The borrower shall be provided with an option to accept such revised terms and conditions for furtherance of the loan. If the Borrower does not accept the revised terms, no further payments will be affected by the Lender. Interest at the rate agreed before the review will continue to accrue on the outstanding amount of the loan. The accumulated principal and interest shall become due and payable as mentioned in clauses (14) and (18).

Figure 13 Institutional Review Board Approval for Interviewing subjects



भारतीय प्रबंध संस्थान अहमदाबाद
INDIAN INSTITUTE *of* MANAGEMENT AHMEDABAD

October 09th, 2023

To:

Principal Investigators: Prof. Prashant Das (Associate Professor at IIMA) & Ms. Komal Ranjan (Research Assistant)

Research Project: Reverse Mortgage Loan in India.

From: Kathan Shukla, Chair, Institutional Review Board, IIM Ahmedabad, India

We are pleased to inform you that your study has cleared the review process.

The approval number is IIMA IRB 2023-46.

Good luck with your research.

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