CHAPTER- I
INTRODUCTION

1.1 Introduction

A reverse mortgage is a loan available to senior citizens against the mortgage of their self occupied residential house property. Reverse mortgage, as its name suggests, is exactly opposite of a typical mortgage, such as a home loan. In a typical or forward mortgage, money is borrowed in lump sum right at the beginning and then paid back over a certain period using Equated Monthly Instalments (EMIs). In reverse mortgage, a self acquired residential house property is mortgaged with a bank/housing finance company. The bank, in turn, provides money either as lump sum or as regular income flow for a fixed tenure/life time. These can be thought of as reverse EMIs. Although the house is mortgaged with bank, senior citizen owner can live in it till he/she and his/her spouse are alive. Reverse mortgage works like a pension scheme for senior citizens, who live in a house of their own.

Hitherto, a retired senior citizen could use his/her residential property in one of the two main ways to generate cash inflows. Firstly the residential property can be out rightly sold in the market to generate liquidity. But this alternative is not preferred as this would require senior citizen to move away from his familiar surroundings. Most old people are attached with their geographical location and are not willing to shift to new location. For most elderly home is an emotional and psychological resource. The second alternative is to mortgage the property and avail of a loan facility from bank or any financial institution. But, this would require the retiree to make monthly loan repayments. With limited monthly cash inflows, even this option is not acceptable to most senior citizens. There was a need for some new financial arrangement, which could generate liquidity from residential house property.

Reverse mortgage, now provides an additional and novel method of getting money from home that does not require the retiree to move out of it or to make regular loan repayments. A reverse mortgage is a loan against residential house property that a retired senior citizen does not have to pay back for as long as he lives there. With this
new method, a senior retiree can turn the value of his home into regular cash inflows much like pension without having to move out or to repay the loan each month in the form of EMI. The senior citizen doesn’t have to pay anything back until his/her and also spouse death, sale of house or vacating the property permanently.

Reverse mortgages is thus an extremely powerful tool to help eligible homeowners obtain much needed cash inflows in retirement from their residential house property. Reverse mortgages enable eligible homeowners to access liquidity from their otherwise illiquid house property. They are primarily designed to strengthen seniors’ personal and financial independence by providing funds without a monthly payment burden during their lifetime while living in their home.

In recent years we are witnessing enormous construction of residential house property in most metropolitan areas. With so much construction taking place in the entire urban landscape, most of the savings of household sector is being immobilised into residential house property. This combined with steep rise in property prices, most of the wealth held by retirees is going to be in the form of ownership of residential house property (Bardhan and Barua, 2003). In times to come, with little social security, high inflation, steep rise in medical costs and lack of joint family support, most senior citizen retirees would be forced to draw liquidity from their house property. The reverse mortgage is one such good option that makes it possible.

The present chapter seeks to elaborate on the context in which the present study has been undertaken and to define its purpose and objectives. Moreover, it also seeks to spell out the basic contours of the study, namely, the hypotheses to be tested, research design and plan of the study.

The chapter has been divided into eleven sections. Section I introduces the research topic. Section II provides background of the study and traces the brief history and evolution of the reverse mortgage internationally. Section III explains different options of generating liquidity from residential house property. Section IV explains the concept of reverse mortgage loan, evaluates it in terms of its advantages and disadvantages and explains the various kinds of risks associated with it. Section V describes the specific factors that define the opportunity for reverse mortgage in India.
Section VI describes the need for the present study. Section VII lists the objectives of the study. Section VIII describes the significance of the present study. Section IX lists the research hypothesis to be tested. Section X briefly explains research methodology. Finally Section XI provides the organisation of the study.

1.2 Background

The origin of this product and its development could be traced to the fiscal pressures being generated in the developed world by their ageing demographic profile. World over, population ageing is unprecedented. Population ageing occurs when increases in the proportion of older persons (those aged 60 years or above) is accompanied by decrease in the proportion of children (those under age 15) and then by declines in the proportion of persons in the working ages (15 to 59 years)

![Chart showing the proportion of population 60 years and above from 1950 to 2050](https://example.com/chart.png)


*Figure 1.1: Proportion of population 60 years and above (World, 1950-2050)*

Since 1950, the proportion of older persons in total world population has been rising steadily, from 8 per cent in 1950 to 11 per cent in 2009, and expected to reach almost 22 per cent in 2050 (figure 1.1).
Table 1.1: Total Fertility Rate and Life Expectancy at Birth: World, 1950 - 2050

<table>
<thead>
<tr>
<th>Period</th>
<th>Total fertility rate (per woman)</th>
<th>Life Expectancy at Birth (in years)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1950 – 55</td>
<td>5</td>
<td>46.5</td>
</tr>
<tr>
<td>2000 – 05</td>
<td>2.7</td>
<td>66.0</td>
</tr>
<tr>
<td>2045 – 50</td>
<td>2.1</td>
<td>76.0</td>
</tr>
</tbody>
</table>


The confluence of lowered fertility and increased longevity has generated growing numbers and proportions of older population throughout most of the world (Table 1.1). This trend appeared first in developed world and the developing world is only a little time behind. In most of the developed world at present, this ageing population is undermining the current and future sustainability of their universal and liberal old age social and income security programmes. The decline in their young population is reducing the growth rate and tax base and increase in the old aged population is putting pressure on public expenditure leading to high deficit financing and government debt (CRIISP, 2011). Currently most of the Europe and U.S. is reeling under the fiscal pressure generated by their liberal old age social and income security programmes.

The developed economies especially USA and countries of Western Europe woke up in the mid 1980s to these realities and started with the pension and social security reforms (CRIISP, 2011). One important feature of these reforms is that government in these countries is increasingly shifting the responsibility of providing for old age social security from the state to private sector and individuals. In this context, the policy makers in these countries started looking for new financial products that can help the elderly to provide for their own long term care. This search focussed their attention to the assets in possession of the elderly. It was found that bulk of the wealth accumulated by old people during their working years is in the form of ownership of house property whose value has increased considerably in recent years. This housing wealth was seen as a potential additional source of financing the retirement expenditure of the aged population (Mayer and Simons, 1994; Stucki, 2005). The idea of reverse mortgage loan facility was thus
initiated in the developed world, through which an illiquid residential house property could be converted into a source of regular liquidity.

**International Context**

The problem of senior citizens having insufficient cash inflows after retirement is not a recent phenomenon. There is a long history of releasing home equity as a source of financing retirement. As early as 400 years ago, there are instances where European investors used to purchase homes from elderly persons and allowed them to stay in the same house rent-free for the rest of their lives. During the crash of 1929, a financial product called the home-equity reversion was created in England. This was a type of home equity release scheme in which a home owner sold all or part of his home in return for regular income or a cash lump sum or both, and continued to live in his home, usually rent free until death (Huan and Mahoney, 2002).

At present home equity release schemes similar to reverse mortgage exist in most of the European Union member countries. Closely related to the concept of reverse mortgages is the French system of viager, a middle ages practice that has experienced renewed popularity in Europe. It is a private contractual arrangement between the buyer and the seller of a property. The buyer pays the seller a down payment and the remaining amount is payable in form of monthly payments en viager (i.e., for life). Upon the seller’s demise, the buyer gets title to the property. The French government now promotes this system as one of the important means to reduce dependence on social security programmes.

At one time shared appreciation mortgages were issued by the Bank of Scotland and Barclays Bank in the UK. In this home equity release option, the homeowner paid interest on money borrowed against the mortgage of the house at a low rate relative to market interest rates. But the lender took a proportionate share of the capital appreciation on the house over the period of the mortgage.

The concept of home equity release was subsequently brought into U.S and became known as home-equity conversion loans or reverse mortgages in the 1970s and 1980s. In the U.S. this product has developed and evolved the most, both in variety and volumes. The product did not gain widespread acceptance until 1988 when U.S. Federal Government began sponsorship of its own reverse mortgage program. It
authorised the Department of Housing and Urban Development (HUD) to create the Home Equity Conversion Mortgage (HECM) program. HECM program is insured by the U.S. Federal Housing Administration. Currently HECM program is most popular in U.S. and is gaining increasing popularity.

The reverse mortgage loan in various forms is currently available in numerous countries, notably the U.S., Great Britain, France, Australia, Canada, New Zealand, Japan and Singapore where it is attracting more and more consumers. Reverse Mortgage scheme has been particularly famous and quite successful in United States of America. In India this concept has been taken from US and is being customized to suit our local needs.

1.3 Options of Generating Liquidity from House Property

Huge amount of senior citizens wealth is locked in house properties. Traditionally, property is considered to be an illiquid asset. But senior citizens can now generate liquidity from their house property through a number of arrangements:

i. **Sell the home and move to another location on rent**: This could provide additional liquidity to the senior citizen in times of need. This alternative is not preferred as this will force seniors to keep looking around for new accommodation after every few years. There is added worry about the rising rents every year. Most senior citizens have an emotional attachment with their home and would like to stay in their home. Also, older individuals may be reluctant to move into a different neighbourhood away from their friends and familiar environment. They would rather like to remain in their social environment and maintain their social standing.

ii. **Rent a part of the house**: The retiree can let out a part of his residential house property to generate regular additional income. But this option is available only to retirees who have a big enough house to allow them to rent a part of it. Some senior citizens are highly risk averse and dread giving their property on rent. They prefer to live within whatever little income they have rather than improving their cash flows through rental income. They feel that tenancy laws are more in favour of tenants than landlords. Some senior citizens value their
privacy more than anything else. They may not be interested in renting out their property as it is likely to affect their privacy and independence.

iii. Arrangement with builder: Recently this option is becoming popular in big cities. In this, a senior citizen having a high value house property in good location but facing a cash crunch can enter into an arrangement with builder to construct multi-story flats at his property. In most such arrangements the builder gets a share in the property in the form of one floor. In return, builder takes the responsibility of construction and also pays a substantial sum to the owner. The owner gets the much needed cash and continues to live at the same place. Many senior citizens who are averse to loan or mortgage of property, are using this option to generate liquidity. But this option is available only to those retirees who have landed property and not to those living in flats. But even in this option, retiree will have to forgo substantial equity in his home to generate liquidity.

iv. Forward Mortgage: In this alternative, a substantial amount of loan can be raised by mortgaging the residential house property. This loan amount is required to be paid back in Equal Monthly Instalments (EMI). Such a product may not suit aged retirees as they may not have enough regular monthly cash inflows to service the loan by paying EMI’s. Furthermore, a forward mortgage would require the borrower to satisfy rigorous lending standards in order to even qualify for the loan. Therefore, such loans can make sense, where house owner need for additional cash is for a relatively short-term.

v. Reverse Mortgage: Encouraged by the success of reverse mortgage internationally in many of the developed countries, Indian government too introduced this loan facility in the union budget 2007-08. This could be seen as an attempt to promote voluntary efforts by property owning middle class senior citizens to provide for their own old age security. In this scheme, an individual with age of 60 years and above is given loan against the mortgage of his/her self occupied property. This loan is mainly given in the form of a regular annuity either for a fixed term or for a lifetime. The loan is not to be repaid during homeowner’s lifetime. The owner retains the title and gets the lifetime right to stay in his own house. The house, which was a regular drain on cash resources
during owner’s lifetime, now becomes a source of regular liquidity during retirement.

While the reverse mortgage loan has the advantage of not requiring any qualifying credit or income standards, it also has high transaction costs. The amount of funds available is also significantly lower compared to the other alternatives. But for seniors who wish to remain in their house, who want more spendable money but who don’t want to give up their financial independence, there is no substitute for a reverse mortgage.

1.4 Reverse Mortgage Loan

1.4.1 Concept

A mortgage is a form of hypothecation of a property to a bank or a housing finance company as a security for loan. The security that a lending institution insists on is the mortgage of the house for which the loan is being availed of by the borrower. In such loan transactions, transferor is called mortgagor, the transferee a mortgagee and the instrument through which transfer is affected is called a mortgage deed.

A reverse mortgage is a loan available to senior citizens against the mortgage of their self occupied house property. Although house is mortgaged to bank/housing finance company, the house owner gets to stay in the property along with the spouse for lifetime. Thus the owner can ensure a regular cash flow in times of need and enjoy the benefit of staying in the property. The way this innovative financial arrangement works has been illustrated below:
Figure 1.2: How the Reverse Mortgage works
A senior citizen with House Property goes to Bank

Bank mortgages the house and based on the borrower’s age and property valuation grant loan up to 60%-70% of property’s value for a term of 15 to 20 years. Loan is preferably given in the form of monthly income for loan term,

After the loan term borrower/spouse continue to live in their own house, but monthly payments stop after the loan term and loan accumulates

Is borrower and spouse dead

Yes

Loan Recovery Process starts.

Are legal heirs ready to pay off loan?

Yes

Legal heir pays off the accumulated loan and keeps the house property.

No

Bank sells the house, recovers the loan amount and passes on any remaining amount to legal heirs

End

Figure 1.3: Flow Chart on Working of Reverse Mortgage
Reverse mortgage thus turns the immovable property into a liquid asset that generates a return while it is being used by the owner. It works like a pension scheme for senior citizens, who live in a house they own. The working of reverse mortgage is explained through Figure 1.2 and Figure 1.3.

1.4.2 Distinction between Reverse Mortgage and Forward Mortgage

Reverse mortgage, as its name suggests, is exactly opposite of a typical mortgage, such as a home loan. In a typical or forward mortgage, money is borrowed in lump sum right at the beginning and then paid back over a period of time using Equated Monthly Instalments (EMIs). In reverse mortgage, an owner occupied residential house property is mortgaged with a bank/housing finance company. The bank, in turn, provides money either as lump sum or as regular income flow for a fixed tenure/life time. These can be thought of as reverse EMIs. Table 1.2 explains points of distinction between housing loan (forward mortgage) and reverse mortgage.

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Housing Loan (forward mortgage)</th>
<th>Reverse Mortgage Loan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Income Requirement</td>
<td>Take-home salary to justify</td>
<td>No income requirement</td>
</tr>
<tr>
<td>Capacity to repay</td>
<td>Credit Worthiness To be Assessed</td>
<td>None</td>
</tr>
<tr>
<td>Asset Requirement</td>
<td>Need proof of other liquid assets</td>
<td>None</td>
</tr>
<tr>
<td>Monthly Repayment</td>
<td>Minimum monthly repayment</td>
<td>None</td>
</tr>
<tr>
<td>Purpose of loan</td>
<td>Home Purchase/construction</td>
<td>Generate additional monthly income in old age.</td>
</tr>
<tr>
<td>Taxability of Funds</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Disbursement period</td>
<td>Synchronized with construction/outright purchase</td>
<td>Life of the loan</td>
</tr>
<tr>
<td>Defaulting History</td>
<td>Given weightage during loan decision</td>
<td>Is not be a deciding factor</td>
</tr>
<tr>
<td>Loan Amortization</td>
<td>Maximum 20-year amortization</td>
<td>Repayment only on the death, sale or not living in property.</td>
</tr>
<tr>
<td>Prepayment Penalty</td>
<td>There can be</td>
<td>None</td>
</tr>
<tr>
<td>Age Restrictions</td>
<td>None</td>
<td>Must be 60 years or above</td>
</tr>
<tr>
<td>Loan Repayment</td>
<td>Full loan amount (principal plus interest).</td>
<td>Loan recovered only from property value.</td>
</tr>
<tr>
<td>Home Equity/ Loan</td>
<td>Rising equity and falling debt over time</td>
<td>Rising debt and falling equity over time</td>
</tr>
<tr>
<td>Non-repayment issues</td>
<td>Lender can foreclose, in case of default in repayment</td>
<td>Lender cannot foreclose as no monthly repayment required.</td>
</tr>
</tbody>
</table>
**Loan to value ratio** | **Can be upto 100% of home value** | **Loan amount based on age, home value and interest rate**
---|---|---

In case of house property, the loan taken on mortgage of property is called debt while owner’s stake in the property is known as equity. In general, interest rates charged by banks on reverse mortgages are higher than those of forward mortgages. As borrower is not required to make any repayments, the loan balance increases with time, which increases the debt. The reverse mortgage loans are therefore popularly known as rising debt and falling equity type of loan. This is unlike regular or forward mortgages in which loan is taken at the time of purchase of property and then paid back in the form of EMI over the loan term. In this type of loan as the EMI’s are paid, the loan amount decreases and owners equity increases. The forward mortgages are therefore popularly known as falling debt and rising equity type of loans.

**1.4.3 Advantages of Reverse Mortgage Loan**

Reverse mortgage scheme offers number of advantages for all stakeholders including borrower, lender and government. Some of these advantages are:

i. This loan could become a useful supplement to retirement income for senior citizens with little or no pension and shortage of cash inflows to meet the expenses during retired life. It makes them financially independent.

ii. As the loan is not to be paid back, there are no eligibility requirements like income qualification to avail this loan.

iii. Borrower gets liquid funds against his home equity, without having to move out or having to make any repayments, till he dies or permanently moves out. Borrower thus gets the lifetime right to stay in his own home without any payment obligations.

iv. There is no upper age limit for getting this loan. In fact higher the age, the more is the eligible amount of loan.

v. The money received by borrower under this scheme is tax free. Borrower has the flexibility to receive the loan money in the form of a lump sum, annuity, credit line or combination of them as per his/her requirements.
vi. Reverse mortgage loan is a non-recourse loan. This means the borrower can never owe more than the value of the home at the time of loan settlement. If the loan amount with accumulated interest grows to more than the value of house, the lender has to bear the loss. There is no recourse to any other source of fund except the property that acts as collateral.

vii. There are no restrictions on the use of funds except that they cannot be used for business or speculative purposes.

viii. At the macro level, implementation of reverse mortgage schemes could reduce the burden on the government and employers who are paying pensions, whether in the public or in the private sector, and would thus be an indirect measure to bring in pension reforms.

ix. Considering the present trend of increase in property prices, it is very likely that even after settlement of reverse mortgage loan there would still be something left for legal heirs. To some extent this will take care of the desire of the senior citizens to leave some inheritance for the children.

x. It can provide a good business opportunity for the lender. There are crores of rupees locked up in property values in urban areas. With senior citizen population being the fastest growing segment of the Indian population, the demand for this product could grow substantially in times to come.

xi. The increased awareness of the availability of reverse mortgage loan will motivate people to build or buy their homes early in their lives and thereby, save for their retirement voluntarily. This would increase the economic activity.

### 1.4.4 Drawbacks of Reverse Mortgage Loan

i. If the borrower decides to reallocate to other place, then he/she will be required to repay the loan. This could limit borrower's freedom of choice.

ii. Reverse mortgage loan is expensive. Initial loan processing costs associated with the scheme are quite high. The loan facility will therefore make sense if it is used for a long term.
iii. If real estate prices go down at some stage, the revaluation of property could entitle borrower to lower annuity value, or his annuity could stop altogether. This could put borrower in a difficult position as he/she needs a higher annuity amount with each passing year.

iv. If the borrower wishes to pass on his wealth to his heirs, he will find his bequest greatly reduced by reverse mortgage.

v. Maintenance costs, insurance and taxes remain the responsibility of the owner. Failure to pay them is treated as technical default and may lead to foreclosure of loan.

vi. Since there are no regular payments to be made, interest is added to the loan balance and compounds for the duration of the loan. Because of this, the loan balance can dramatically increase over time, leaving little equity for owner.

### 1.4.5 Risks Associated with Reverse Mortgage Loan

#### 1.4.5.1 Risks from Lenders Point of View (Supply Side Risks):

For the lender, many complicated risks are associated with providing reverse mortgage loan to senior citizens. As this is a long term loan, the property price as well as accumulated loan amount (due to an annuity payout), both increase with time. This creates the possibility of “crossover risk,” or the risk that the loan amount may grow to more than the property value by the time the loan becomes due. Such a situation is quite feasible, since the property prices may not continue to grow for ever at high rate but the effect of compounding on the loan amount in the long run is always certain. Since the lender cannot take possession of the property and bring it to sale till borrower and his/her spouse are alive, the loan amount is likely to catch up to the property value. The risk to the lender arises from “non-recourse” clause in reverse mortgage loan. This prevents either borrower or his estate from owing more than the value of the home at the time of loan settlement.

Crossover risk is actually a wider term that conceals the more precise sources of risk. Philips and Gwin [1993] identify five specific categories of risk confronting a RM lender. These are longevity risk, interest rate risk, general home appreciation risk,
specific home appreciation risk, and expense risk. These risks are discussed in the following paragraphs:

i. Longevity Risk

This risk arises, if the borrower lives unduly long. If borrowers remain in their homes for a long period, there is a greater chance that the loan value may exceed the value of the property (Szymanoski, 1994). This could happen because loan amount will get more time to catch up to the property value. This risk will be greater, if the property prices stagnate or grow at a lower rate. Continuous advancement in health care has led to improvements in mortality rates, leading to increased human longevity. One way to reduce this risk is through diversification. With increase in the volume of reverse mortgages, the likely future scenario may be that some people will die early and some people will die late. The profits on the former should be able to cover up the losses on the latter. Individual longevity risk can be managed through a structure of reverse mortgage insurance premium. This structure can be modelled in a way that equates the present values of expected losses from longevity with expected insurance premiums. The premium can be either charged from the borrower or taken care of by reducing the maximum loan amount.

While insurance is the traditional method of managing the Reverse Mortgage risks, securitization has been suggested as a method for managing aggregate longevity risk (Wang, Valdez and Piggott, 2007; Divakaruni, Mallela and Kanagala, 2007) Using Survivor Bonds to hedge longevity risk is one of the recent initiatives in longevity risk management. The mechanism of using survivor bond is as follows:

Lender, who has a portfolio of reverse mortgages, enters into an insurance contract with a special purpose company (SPC) to hedge the longevity risk. The arrangement is that the SPC will compensate the loss suffered by lender in case the number of survivors is more than anticipated. The SPC will collect a premium in exchange of the promise to compensate the loss and also restricts the compensation to some maximum limit. The SPC will then issue survivor bonds with coupons in the capital market which will be subscribed by institutional investors. Coupon payments on these survivor bonds will depend on the underlying mortality experience of the lender’s
loan portfolio. If there is any claim by lender, during a particular year, SPC will pay the claim out of amount allocated for coupon payments and the adjusted coupon will be paid to investor. At maturity, the bond will pay back the principal amount.

ii. Interest Rate Risk

Interest rate risk in reverse mortgages is very complicated and difficult to assess. The degree of interest rate risk depends on whether the reverse mortgage loan is fixed interest rate or variable interest rate bearing. Reverse mortgages appear on the asset side of banks balance sheet. In case the reverse mortgages done by lender are fixed interest rate bearing, the lender is not in a position to control the change in its assets value (reverse mortgages) due to an increase or decrease in market interest rates. An increase in market rates of interest will decrease the value of its fixed interest rate reverse mortgage assets, because they will now be earning a lower rate of return. Such scenario will reduce the profit margin of the lender. If the reverse mortgages done by lender bear variable rates of interest, it will be difficult for the lender to know the future value of its reverse mortgage assets with certainty. With a large portfolio of reverse mortgage loan, even a small change in interest rates can have large effects on the future loan value. This happens because the periodic interest charges are capitalised and added to loan balance rather than paid by the borrower as they accrue. If interest rate rises, the borrower debt will increase at a fast rate. This increases the possibility that loan balance will exceed the property value on loan settlement (Boehm and Ehrhardt, 1994).

To create an asset liability match, lender incurs liability in the form of long term bonds and invests those proceeds in reverse mortgages. This process of matching asset income with debt-servicing requirements is known as immunisation (Mitchell & Pigott, 2004). Because of the unusual cash-flow pattern of reverse mortgages, it is very difficult to maintain a completely immunised asset-liability match. A poorly immunized portfolio can further accentuate the detrimental effects of interest rate changes, since liability-servicing requirements will be out of step with income. During the time difference between receipt of income and payment of debt, there could be number of changes in the rate of interest, leading to asset liability mismatch. The small balance sheet values that newly originating reverse mortgages represent
would grow to significant asset values with passage of time. Interest rate changes may have little effect on these small initial balance sheet values, but future asset values can change dramatically.

iii. General House Appreciation Risk

There is no reliable data on genuine residential property prices and its growth rate. The expected future values of property are unknown to lenders, yet lenders rely on these values to price reverse mortgage loans. If the lenders projections are not good, he faces the risk of losing money on such loans. This gives rise to general house appreciation risk. This risk is also not wholly diversifiable. If the lender has significant volumes in reverse mortgages with properties from different geographical locations, it will be helpful in diversifying the risk arising from decline in property values in some of the regions, because there are likely to be many regions which show significant appreciation in property values. But even this strategy may not help in reducing the risk arising from a general property price decline at the national level.

iv. Specific House Appreciation Risk

It is quite possible that most of the reverse mortgages sold by the lender are confined to a specific location or region. Adverse property price changes in such portfolio could carry the risk of substantial loss for the lender. Moreover, growth in property prices in some reverse mortgage loans are not going to generate any extra profit for the lender, who receive only the loan balance at the time of property disposal.

v. Expense Risk

At present the reverse mortgage market is small with very few willing borrowers. Lenders have to incur considerable time and expense in marketing this unconventional loan, the details of which are little known to target customers. The senior citizens, for whom the product is meant, are very inquisitive and sceptical. They cannot easily take a decision on the most important asset of their life. They keep postponing this decision as much as they can. All this exercise, costs precious time and money. There is a risk that if sufficient loan volumes are not generated in this category, lenders expenses may not be recovered.
vi. Risk of Adverse Selection and Moral Hazard

Reverse mortgage loans are not due until the borrower dies, sell the house, or permanently move out. If more of healthy people apply for such loans than sick ones, it creates the risk of adverse selection. Healthy borrowers are likely to stay in their homes for a long time. In the long run, loan amount is likely to grow to more than the property value. The risk due to adverse selection and longevity risk are in fact two sides of the same coin. The risk to the lender arises from “non-recourse” clause in reverse mortgage loan. This prevents either borrower or his estate from owing more than the value of the home when the loan is repaid. Moral hazard problem arises because homeowners may have no incentive to maintain the house (Miceli and Sirmans, 1994; Shiller and Weiss, 2000; Caplin, 2002).

1.4.5.2 Risks for the Borrower (demand side risks): Borrowers face many risks in a reverse mortgage transaction. Most senior citizen house owners might not understand these risks. They do not understand their obligations in relation to this loan. Many do not realize, how the loan balance increase over time as they live in house of their own. For this reason, the loan guidelines in most countries where this product is offered at present require that borrowers should be provided detailed information about the product and that he should receive educational counselling before getting his acceptance for the loan (Rodda et al 2000). The borrower could face the following risks:

i. Risk of lender bankruptcy

Homeowner taking a reverse mortgage faces the risk from the possibility of lender becoming bankrupt during loan tenure. There is no risk to borrower in case the loan is taken in lump sum. If the loan is in the form of term or life time annuity, then borrower faces the risk of annuity stopping. If the loan is insured by the government, then there is no risk to borrower as he will continue receiving his monthly payment.

ii. Risk associated with government tax policy

The government tax policy relating to cash flows emerging from reverse mortgage transactions could expose borrower to additional risk. If borrower decides to move away from his present location, the house is brought to sale to recover the
accumulated loan amount. If the house sells for more than the indexed property value, this leads to capital gains tax. If the borrower continue to be associated with reverse mortgage, it is possible that what he owed on the reverse mortgage loan might exceed what was realised from the house sale (Caplin 2002). In such a case, the borrower might not be in a position to pay the capital gain tax bill despite having made a gain on the house sale.

iii. Risk associated with not making the right product choice

Equity release products should not be entered into lightly. A borrower should consider this loan keeping his future needs in mind. He must seek financial and legal advice before opting for this loan. Using home equity is a big step. Home is probably the most valuable asset for the owner. So he must work out whether the benefits outweigh the risks. The biggest risk is that of making a wrong product choice. May be, some other option would be better for a homeowner, considering his future needs. Using home equity may not be suitable if homeowner has no control on his regular monthly expenses or he wants to give or lend money to his family or he is thinking of investing in stock market or he needs money only for short term.

1.5 Opportunities for Reverse Mortgage in India

India at present has most of the factors that favour the development of successful reverse mortgage market. These factors are:

1.5.1 Demographic Changes

Significant demographic changes are taking place in India over the last few decades. These changes are in the form of decline in fertility rates (Table 1.3), increase in life expectancy (Table 1.6), increase in absolute number and proportion of the aged population (Table 1.4), increase in old age dependency ratio (Table 1.7) and rapid urbanisation (Table 1.8). It is projected that the number of older persons will grow from around 100 million in 2011 (or 8.2% of total population of around 1.2 billion), to around 301 million (or 17.3%) in 2051 (Table 1.5).

India does not have a comprehensive old age income security system. Most aged people rely on the support from their children for their consumption needs in old age.
With the given projections for the old age population, we could be moving towards India, which will have a large number of poor elderly. Reverse mortgage can provide one additional alternative to old age house owning retirees to lead somewhat comfortable and independent retired life.

Table 1.3: Selected Indian Population Indicators (1981-2010)

<table>
<thead>
<tr>
<th></th>
<th>1981</th>
<th>1991</th>
<th>Current</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Fertility Rate (per woman)</td>
<td>4.5</td>
<td>3.6</td>
<td>2.5 (2010)</td>
</tr>
<tr>
<td>Crude Birth Rate (per 1000 population)</td>
<td>33.9</td>
<td>29.5</td>
<td>21.8 (2011)</td>
</tr>
<tr>
<td>Crude Death Rate (per 1000 population)</td>
<td>12.5</td>
<td>9.8</td>
<td>7.1(2011)</td>
</tr>
</tbody>
</table>


Decline in fertility rates imply that in times to come old people will have few children. This could reduce the pressure on seniors to bequest the property to children. They could use their residential house property through reverse mortgage to generate additional monthly income and thereby lead a comfortable retired life.

Table 1.4: Number and Proportion of Elderly Population (aged 60 years and above) In the Total Indian Population (1961-2011)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Number (in millions)</td>
<td>25</td>
<td>33</td>
<td>43</td>
<td>57</td>
<td>77</td>
<td>100</td>
</tr>
<tr>
<td>(% of total population)</td>
<td>5.6</td>
<td>6</td>
<td>6.5</td>
<td>6.8</td>
<td>7.5</td>
<td>8.25</td>
</tr>
</tbody>
</table>


Table 1.5: Projection of Number and Proportion of Elderly Population (aged 60 + ) In the Total Indian Population (2021-2051)

<table>
<thead>
<tr>
<th>Number and Proportion</th>
<th>2021</th>
<th>2031</th>
<th>2041</th>
<th>2051</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number (in millions)</td>
<td>133</td>
<td>179</td>
<td>236</td>
<td>301</td>
</tr>
<tr>
<td>(% of total population)</td>
<td>9.9</td>
<td>11.9</td>
<td>14.5</td>
<td>17.3</td>
</tr>
</tbody>
</table>
Table 1.6 shows that female life expectancy at ages 60 years and 70 years is slightly higher than that of males. As women are increasingly living longer than men, greater feminization of population is taking place (Liebig and Rajan, 2003). Reverse mortgage can provide income and social security to surviving widow after the death of husband.

Table 1.6: Male and Female Life Expectancy at ages 60 and 70, India (1970 – 2005)

<table>
<thead>
<tr>
<th>Period</th>
<th>Male</th>
<th></th>
<th>Female</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>At Birth</td>
<td>At age 60</td>
<td>At age 70</td>
<td>At Birth</td>
</tr>
<tr>
<td>1970-75</td>
<td>50.5</td>
<td>13.4</td>
<td>8.6</td>
<td>49.0</td>
</tr>
<tr>
<td>1976-80</td>
<td>52.5</td>
<td>14.1</td>
<td>9.6</td>
<td>52.1</td>
</tr>
<tr>
<td>1981-85</td>
<td>55.4</td>
<td>14.6</td>
<td>9.7</td>
<td>55.7</td>
</tr>
<tr>
<td>1986-90</td>
<td>57.7</td>
<td>14.7</td>
<td>9.4</td>
<td>58.1</td>
</tr>
<tr>
<td>1991-95</td>
<td>59.7</td>
<td>15.3</td>
<td>10.0</td>
<td>60.9</td>
</tr>
<tr>
<td>1996-2000</td>
<td>61.0</td>
<td>15.8</td>
<td>10.4</td>
<td>62.7</td>
</tr>
<tr>
<td>2001-2005</td>
<td>62.3</td>
<td>16.4</td>
<td>10.9</td>
<td>63.9</td>
</tr>
</tbody>
</table>


Table 1.7 shows important ageing indices. It shows projections about old age dependency ratio and index of ageing. Old age dependency ratio is defined as the ratio of population above 60 years of age to the population in working ages (15-59). Index of ageing is defined as the ratio of population above 60 years of age to the population in age group 0-14 years. Both indices are projected to go up significantly in decades to come. Reverse mortgage can provide one good alternative to old age house owning retirees to be financially independent in old age.

Table 1.7: Indices of Ageing of Indian Population, 2011-2051(Projections)
Indices  | 2011 | 2021 | 2031 | 2041 | 2051  
--- | --- | --- | --- | --- | ---  
Old Age Dependency Ratio  | 13.4 | 16.0 | 19.0 | 23.2 | 28.2  
Index of Ageing  | 26.5 | 35.2 | 46.8 | 62.0 | 81.7  
*Source: Adopted from Rajan, 2006.*

**Table 1.8: Urbanization in India (1951-2001)**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Urban Population (in millions)</td>
<td>62.4</td>
<td>78.9</td>
<td>109.1</td>
<td>159.5</td>
<td>217.6</td>
<td>284.5</td>
</tr>
<tr>
<td>Urban Population (in %)</td>
<td>17.3</td>
<td>18.0</td>
<td>19.9</td>
<td>23.3</td>
<td>25.7</td>
<td>27.8</td>
</tr>
</tbody>
</table>
*Source: Adopted from Bhattacharya, 2005.*

**1.5.2 Insufficient retirement income**

Nearly 89% of the total workforce is employed in the unorganised sector. They retire from their work without any financial security like pension and other retirement benefit. Although New Pension System was made applicable to them from 2009, it did not make much headway. The formal pension system which includes traditional civil servants pension scheme and Employees Provident Fund Organisation schemes together cover just about 11% of workforce (Shah, 2005).

**Table 1.9: Member Balance in EPF as on March 31st 2003**

<table>
<thead>
<tr>
<th>Amount (in Rupees)</th>
<th>Number of Members (in million)</th>
<th>Percentage of members</th>
<th>Average Balance (in Rupees)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Up to 20,000</td>
<td>29.34</td>
<td>84.6</td>
<td>3,130</td>
</tr>
<tr>
<td>20,000 – 49,999</td>
<td>2.88</td>
<td>8.3</td>
<td>40,470</td>
</tr>
<tr>
<td>50,000 – 99,000</td>
<td>1.28</td>
<td>3.68</td>
<td>70,660</td>
</tr>
<tr>
<td>1,00,000 - 1,99,000</td>
<td>0.79</td>
<td>2.28</td>
<td>1,38,410</td>
</tr>
<tr>
<td>2,00,000 - 2,99,000</td>
<td>0.23</td>
<td>0.67</td>
<td>2,40,620</td>
</tr>
<tr>
<td>3,00,000 - 4,99,000</td>
<td>0.11</td>
<td>0.33</td>
<td>3,69,660,</td>
</tr>
</tbody>
</table>
An analysis of the savings made by members of Employee Provident Fund Organization revealed that out of 39.5 million members as on March 31st 2003, almost 85% members have balances below Rs. 20,000, with an average balance of just Rs.3,130. An additional 8% members have balances below Rs.50,000. This is due to premature withdrawal and usage of funds during working life to fund family functions, illness, housing etc. The people working in the quasi-government sector and private organised sector are covered through mandatory Employee Provident Fund Act(1952) and Employees Pension Scheme(1995). As is evident from Table 1.9, even such mandatory schemes do not ensure accumulation of sufficient amount to meet expenses during long retired life.

In the past, the pension system in the formal sector (for government employees) was defined benefit pension scheme. This meant that the subscriber knew the amount he would get on retirement. But this will not be so anymore. Taking a cue from the developed countries which were facing enormous fiscal pressure due to increasing burden of pension liabilities, Indian Government too felt that defined benefit pension scheme may not be fiscally sustainable in the long run. Therefore it shifted all its new recruits who joined service on or after 1st January 2004 to New Pension System (NPS), which is a defined contribution pension scheme (Asher, 2008). In this, what the subscriber gets on retirement depends on the performance of fund manager that is selected by him to manage his fund.

### 1.5.3 Housing wealth owned by senior citizens

Seniors typically possess more assets than younger persons, usually accumulated over the years. Housing wealth constitute most of the non-pension wealth of most middle class senior citizens. Elderly people on an average possess greater housing wealth than the population average, but they also have incomes that are much lower than those received by younger groups. A global consultancy firm Celent, had estimated
the market potential of reverse mortgage market in India at three million households in 2007 (Celent, 2008).

Table 1.10: Number of Urban Residential Houses in India (2001 and 2011)

<table>
<thead>
<tr>
<th>Year 2001</th>
<th>Year 2011</th>
<th>Variation in %</th>
</tr>
</thead>
<tbody>
<tr>
<td>50 million</td>
<td>76 million</td>
<td>51.6</td>
</tr>
</tbody>
</table>

Source: Census 2011.

As can be observed in the Table 1.10, the urban residential housing stock has increased by more than 50 percent during 2001-2011. This could provide a good opportunity for reverse mortgage to both borrowers and lenders.

1.5.4 Rising residential house prices

The value of housing wealth possessed by middle class senior citizens is not only significant but is growing fast. Over the last few decades property prices have increased considerably in the entire urban landscape. Prices have shot up many folds. Houses worth a few lakh of rupees 10 to 15 years ago are worth crores of rupees today. It has given rise to a large number of ‘house-rich but cash-poor’ property owners.

Table 1.11: Residential Property Price Index for some Big Cities (2007 – 2013)

<table>
<thead>
<tr>
<th>City</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>March 2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ahmadabad</td>
<td>100</td>
<td>103</td>
<td>128</td>
<td>128</td>
<td>165</td>
<td>177</td>
<td>192</td>
</tr>
<tr>
<td>Chennai</td>
<td>100</td>
<td>98</td>
<td>132</td>
<td>190</td>
<td>260</td>
<td>310</td>
<td>310</td>
</tr>
<tr>
<td>Pune</td>
<td>100</td>
<td>98</td>
<td>110</td>
<td>136</td>
<td>163</td>
<td>197</td>
<td>221</td>
</tr>
<tr>
<td>Kolkata</td>
<td>100</td>
<td>127</td>
<td>174</td>
<td>176</td>
<td>197</td>
<td>198</td>
<td>197</td>
</tr>
<tr>
<td>Mumbai</td>
<td>100</td>
<td>115</td>
<td>125</td>
<td>155</td>
<td>186</td>
<td>201</td>
<td>222</td>
</tr>
<tr>
<td>Delhi</td>
<td>100</td>
<td>127</td>
<td>117</td>
<td>110</td>
<td>153</td>
<td>178</td>
<td>202</td>
</tr>
<tr>
<td>Bangalore</td>
<td>100</td>
<td>75</td>
<td>59</td>
<td>69</td>
<td>93</td>
<td>102</td>
<td>109</td>
</tr>
<tr>
<td>Ludhiana</td>
<td>100</td>
<td></td>
<td>170</td>
<td></td>
<td>167</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chandigarh</td>
<td>100</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>194</td>
</tr>
</tbody>
</table>
As can be observed in the table 1.11, the residential property prices have almost doubled in the last five years in most of the important metropolitan cities of India. Since a large portion of middle class seniors wealth is locked in their homes, higher real estate values has substantially increased the value of these assets as a source of funding the post retirement expenditure.

1.5.5 Disintegrating Joint Family System

In the not too distant past, our age old tradition of Joint family system took good care of the old and retirees. It provided the financial and psychological support to the aged people. They felt so secure that they hardly felt the need of financial planning for a comfortable retired life. But with Indian economy becoming increasingly globalised, joint family system is collapsing fast (Rajan at el., 1999; Bhattacharya, 2005).

<table>
<thead>
<tr>
<th>Household Size</th>
<th>Total</th>
<th>Rural</th>
<th>Urban</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 or less (in %)</td>
<td>41.9</td>
<td>49.7</td>
<td>39.8</td>
</tr>
<tr>
<td>5 – 8 (in %)</td>
<td>46.8</td>
<td>43.7</td>
<td>48.1</td>
</tr>
<tr>
<td>9 plus (in %)</td>
<td>11.3</td>
<td>6.6</td>
<td>12.1</td>
</tr>
</tbody>
</table>

Source: Census 2001 and 2011

Table 1.13: Decadal growth in Population and Growth in Number of Households (1991-2001)

<table>
<thead>
<tr>
<th>Decadal Population Growth</th>
<th>21%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Decadal Growth in number of Households</td>
<td>27%</td>
</tr>
</tbody>
</table>

Source: Compiled from Bardhan and Barua, 2003
Table 1.12 and 1.13 clearly bring home the point that families are becoming smaller in size. The migration pull triggered by globalisation is moving the young people away from the parental home to other cities and even other countries. This has increased the vulnerability of the old people. In such a scenario, the use of reverse mortgage could be a useful addition to retirement financing options.

1.5.6 Changing attitudes

Over a period of time people’s attitudes are changing about debt, about being financially independent and about importance of leaving an inheritance for children. Earlier people hated debt and living on borrowed funds. But the new generation has changed all that, as can be seen through growing volumes of home loans, vehicle loans, education loans and increased use of credit cards. The low fertility rates are reducing the average size of family. With reduced family size and children well settled, there is less pressure to leave inheritance for children. This change in attitudes could encourage seniors to use reverse mortgage.

All the above factors point to a great potential for a product like reverse mortgage to provide a solution to the financing needs of house owning retirees in India.

At present Indian population is comparatively young, but due to its huge population base senior citizen component is growing at a fast pace. Retirement planning has never been as important as it is now considering that most Indians live longer. With increase in life expectancy most future retirees will need to build a corpus big enough that could sustain them for a long period of retired life. Lack of social security measures, high inflation, gradual collapse of joint family system, steep rise in the health care costs and little savings has made retirement phase very challenging for most senior citizens. This has created a demand for products that could generate additional monthly income and thereby provide retirement security for the fast ageing population.

In our country too aged people possess considerable housing wealth whose value has grown considerably in recent decades. This wealth has been lying idle. Since long, the
government has been giving significant concessions for house building in the form of tax rebate on interest repayment and also principal repayments. This along with a long period of low interest rates on home loans has led to significant investment in the residential house property. Given the risky returns from investments in financial assets in India, an increasing proportion of the annual savings of the household sector is being invested in the housing sector. Using this large housing wealth through reverse mortgage could lead to many welfare enhancing factors, such as old age security, increase in mortgage business for the banks, increased construction activity and a general boost for the economy (Bardhan and Barua, 2003). It could also reduce the fiscal pressures on the government for old age social security.

The target audience for this product is middle class house owning senior citizens. With increase in longevity one of the chief concerns of the elderly is that they might outlive their savings. While the rich face no problem of shortage of cash flows in old age, the poor does not have a house property to be eligible for reverse mortgage. Due to fiscal constraints and looking at the experience of the developed world, India cannot possibly afford a liberal and universal old age social security system. Looking at the size of its population, the government could possibly provide old age income support, only to the most vulnerable section of population. We have an old age pension scheme but that is meant only for the people at subsistence level. There is nothing for the middle class and reverse mortgage was expected to fill this gap. Since bulk of the savings of middle class retiree is typically locked in home equity, reverse mortgage could provide them an important additional source of financing old age needs.

The reducing fertility and increased longevity in India is leading to emergence of a situation similar to that prevailing in the western countries with a large number of house-rich and cash-poor senior citizens. This is particularly true of the aged people living in metropolitan cities. In such a scenario, reverse mortgage is expected to become a significant option to finance post retirement expenses for burgeoning urban middle class. With a gradual awareness of the existence as well as the success of reverse mortgage internationally, Indian government too introduced the reverse mortgage loan facility in the Union Budget 2007-08. The National Housing Bank, a subsidiary of RBI, came out
with operational guidelines on reverse mortgage in 2007. In India 24 banks and two housing finance companies have already introduced this scheme.

1.6 Need for the study

In India, number of articles and studies based on demographic projections and surveys have indicated a great potential for reverse mortgage \textit{(Bardhan and Barua, 2003; Rajagopalan, 2006; Vaidyanathan and Venkataraman, 2006; Celent, 2008; Iyer and Tripathi, 2009)}. They have made a strong case for popularising reverse mortgage as a significant retirement financing option for the growing senior citizen population in India. Considering India's population, reverse mortgage was expected to be highly successful. However, the present status of the scheme does not reflect it having reached the expected level. According to National Housing Bank, only around 9,000 loans amounting to around Rs 1,740 crores have been sanctioned till June 30, 2011 (NHB release 2011). Due to lack of demand, even the lenders are not taking much interest in the product. Without greater demand, lenders are unable to generate sufficient loan volumes to make it a profitable proposition. Despite the promise of this retirement financing option, elderly population is still not motivated to use it. Need for the present study arose because of the following circumstances:

i. Given the importance of the product in the context of providing retirement solution to the burgeoning old age urban middle class owning house property, the current poor response needed to be thoroughly researched. It was important to identify the barriers to the greater use of reverse mortgage. Whether the current poor response is due to:

a. Lack of awareness.

b. Product specific limitations.

c. Socio-cultural and psychological factors inhibiting its use.

d. Lack of regulatory infrastructure to protect both users and lenders.

e. Lack of initiative on the part of lenders to promote the scheme.
ii. The academic literature has dealt with many issues associated with reverse mortgage. Most research studies on reverse mortgages have focused on one or the other aspect like:

a. The potential market for reverse mortgage (Mitchell and Piggott, 2004; Chia and Tsui 2005), ability to reduce the poverty among the elderly (Mayer and Simons, 1994; Merrill et al., 1994; Morgan et al., 1996; Rasmussen et al., 1996; Kutty, 1998; Fratantoni, 1999; Stucki, 2005; Center for Retirement Research, Boston College, 2009).

b. Use of alternative ways of receiving payments under reverse mortgages, retirees attitude towards housing, debt and financial independence (Canner et al., 1998; Apgar, 2004).

c. Risks associated with the reverse mortgage (Syzmanoski, 1994; Miceli and Sirmans, 1994; Shiller and Weiss, 2000; Caplin, 2002; Rodda et al., 2004; Davidoff, 2006; Bishop and Shan, 2008; Michael and David, 2010).

d. Appropriate pricing of the product (Nishimura, 2011) and the technical difficulties associated with effectively marketing the product (Rodda et al., 2000; Caplin, 2001; Huan et al., 2002; Bardhan and Barua, 2003; Mitchell and Piggott, 2004; Chia and Tsui, 2005; Financial Services Authority, United Kingdom, 2005; Rajagopalan, 2006; Canada’s ‘Consumer Union’, 2007; Redfoot et al., 2007; Australian Securities and Investments Commission report, 2007; Kasbekar, 2008; SEQUAL study, 2008; Centre for Retirement Research, Boston College 2009; Desai 2010).

However most of these studies have been done in the developed countries especially USA, Canada and Australia. Even in these countries, little research work has been done that comprehensively cover most of the issues involved.

iii. As this is a new concept and introduced in India only very recently in 2008, not much research work has been done on the topic relevant to Indian conditions. Some survey work has been done in India but they had a low geographical
coverage and were focused on only few aspects of the product (Iyer and Tripathi, 2009; Desai, 2010). In our country, no major survey work has been done to elicit the opinion of the senior citizens who are eligible to use this loan facility. We have no information about their retirement planning, their source of income at the time of retirement, their knowledge about the various features of this loan facility, their attitude towards financial independence, desire to take debt in old age, desire to leave an inheritance and their main apprehensions about the product. This was a major research gap in this field. The present research study is a modest attempt to fill this gap.

1.7 Objectives of the study

In the context of the above stated need, following specific objectives have been formulated for the study:

i. To review the literature on reverse mortgage in order to develop a perspective on the major issues and concerns pertaining to this new retirement financing solution.

ii. To study the regulatory regime for the reverse mortgage in India and abroad as a backdrop for understanding its role and effectiveness in protecting the users and providers of this product.

iii. To study about the senior citizens retirement planning, their attitude to debt, financial independence, desire to leave an inheritance, knowledge of different options of financing retirement, their likelihood of using reverse mortgage financing option and reaction of family members to using this option.

iv. To study senior citizens main apprehensions regarding the scheme and the features they would like to be present in the scheme to make it more attractive.

v. To find, whether eligible user’s characteristics in terms of gender, region, household status, family size, educational background, current income source and annual income have any effect on the choice of the product and its accompanying features?
vi. To study the main apprehensions of lenders, risks faced by them and problems they face in effectively marketing this product?

1.8 Significance of the Study

Like many other products and ideas, we have taken this concept from the west. But our culture, traditions, customs are different from the west. Unless innovative adjustments are made in the product to suit local conditions, acceptability is likely to remain low. This in fact, has been the actual experience with this product in India. Even four years after its formal launch in 2008, demand for this novel loan facility is still very poor. The results of the present study would be important to increase our understanding of what drives the prospective borrowers.

This is still a relatively new field of study. Changes are being made in the product based on the user’s feedback, experience of the lenders with the product, experience of other countries and inputs from the academic research scholars and practitioners world around. Considering the importance of the product for the retirees, lenders and the government, present study may suggest suitable adjustments in the product to make it more appealing.

The study is important because there has been very little Indian specific research on this topic. A few studies did focus on some specific aspects of reverse mortgage but lacked comprehensiveness in terms of coverage. The present study is a sincere attempt to do comprehensive research on various aspects of reverse mortgage through survey work in important metro areas of Delhi NCR, Jaipur and Chandigarh tri sector. It is a first study of its kind which focuses on perceptions of senior citizens who represent the demand side as well as perceptions of institutional officials who represent the supply side of this loan scheme. The study is also based on a wide range of existing research in the field of housing, finance, and aging. Significance of the present study lies in the fact that it should help to better understand the perception of borrower and lender towards this product, their main apprehensions and the changes they would like in this product. This should help in design of product suited to local conditions.
In India, this area has not been studied in significant detail. Exploring this topic in detail could provide valuable information for policy makers. The results of the study and policy implications that follow could lead to developing new versions of the product, changes in the regulatory infrastructure to protect the borrowers and lenders or involvement of new institutions that could improve the product appeal for borrowers as well as lenders. The questions addressed by this research will become increasingly important with population aging and more and more people entering retirement age.

1.9 Research Hypothesis

To establish the significance of respondent’s socio-economic factors in important reverse mortgage related issues, the study framed following null hypothesis for empirical testing:

\( H_{01} \): Demographic features are insignificant in senior citizens retirement planning early during their working life.

\( H_{02} \): Respondents demographic features are insignificant in senior citizens desire to leave the house property for their children.

\( H_{03} \): Respondents demographic features are insignificant in senior citizens desire for independence in financial matters after retirement.

\( H_{04} \): Respondents demographic features are insignificant in senior citizens desire to take debt in old age.

\( H_{05} \): Respondents demographic features are insignificant in the likelihood of senior citizens using the reverse mortgage loan facility.

\( H_{06} \): Respondents demographic features are insignificant in so far as the reaction of senior citizens family members to the use of this loan facility is concerned.

Each of the hypotheses is cascaded down to a number of sub-hypothesis to focus on testing the significance of each of the respondent’s demographic factor (gender,
region, education level, household status, size of family, annual income and present source of income).

1.10 Research Methodology

The present study is based on both primary and secondary data. The primary data is collected through questionnaire and personal interviews. First, a detailed questionnaire was prepared and circulated to a select sample of 25 eligible respondents in Delhi for testing. After establishing its reliability for the purpose of present research, the final questionnaire was then circulated to target audience.

The target audience for the present study was eligible senior citizens of age sixty years and above, having residential house property in their name and living in four important metro cities of Delhi, National Capital Region (Gurgaon, NOIDA and Faridabad), Jaipur and Tri sector of Chandigarh, Mohali and Panchkula. It was planned to cover around 50 respondents from each of four geographical regions. The target was to cover around 200 respondents. The questionnaire was framed keeping research objectives in mind and convenience of future data analysis. The actual response was very close to the target with a total of 196 responses.

The study is also based on interviews with some senior executives of institutions, who are associated with the supply of this product. This category included senior officials from Banks, Life Insurance Companies and National Housing Bank. This was important to gather information about their perceptions about this loan scheme, specific risks they face with this product, their experiences in dealing with senior citizens and difficulties faced in effectively marketing this product. Executives from insurance companies were interviewed as these companies are expected to play an important role in future in promoting this product. Senior officials of National Housing Bank were also interviewed as this institution is a regulator of home finance in India. It issues the necessary guidelines on reverse mortgage and makes important changes in the product. Their feedback is therefore important.

The study has also relied on the secondary data like census records, information relating to the product on the websites of the banks and finance companies, existing
research into reverse mortgage in India and abroad, data on old age population projections, ageing of Indian population, life expectancy, mortality rates, pattern of house ownership etc.

The data collected from the respondents and secondary sources were analysed using appropriate statistical tools like graphs, tables and cross-tabulation using SPSS. Chi-square test as statistical tool has been applied for testing hypotheses framed in the study.

1.11 Organisation of the Study

The present study has been divided into seven chapters. A brief review of each is provided in the following paragraphs to apprise the reader with the contents of each chapter.

**Chapter I:** This chapter introduces the concept of reverse mortgage and describes its working. It provides a background of the study and traces the brief history and evolution of the reverse mortgage internationally. It discussed the various options of generating liquidity from residential house property. Then it explained the concept of reverse mortgage, its strengths, its weaknesses and associated risks. It described the various factors that favour the development of reverse mortgage market in India. It identified the research gap and indicated the need, objectives and significance of the study. Then it briefly explains the research methodology used and hypothesis framed for testing. Finally, it provides the organisation of the study.

**Chapter II:** This chapter reviews the existing literature on the subject. The literature review has been organised on the basis of broad themes of reverse mortgage on which research has already been done in India and abroad. Within the broad themes literature review has been organised in chronological order. Based on the literature review, important research gaps have been identified.

**Chapter III:** This chapter presents the research methodology employed to achieve the research objectives. It describes the research design, nature of data used, the selection of participants, survey instruments used for the research, data collection procedure and techniques used for the data analysis. It also describes the demographic
profile of the sample respondents. The collection of primary data through questionnaire and personal interviews is also discussed in this chapter.

**Chapter IV:** This chapter discusses the regulatory framework of reverse mortgage in India. In this context it discussed the guidelines issued on reverse mortgage by the National Housing Bank. It then describes the regulatory framework on the product in some developed countries, where the product is in use for a considerable period of time. It also discusses the important changes made in the product since its launch.

**Chapter V:** This chapter presents the survey results based on the perceptions of senior citizen respondents as to reverse mortgage scheme. This is based on the analysis of data generated through questionnaire responses. It is also based on the analysis of information received during researcher interaction with a large number of senior citizens other than the questionnaire respondents. The data were analysed through statistical tables, graphs and cross tabulation using SPSS. The statistical results on hypothesis testing are reported in this chapter.

**Chapter VI:** This chapter presents the survey results based on the perceptions of institutional respondents as to reverse mortgage scheme. This qualitative analysis is based on the responses received during personal interviews with the executives of banks, insurance companies and National Housing Bank. The common themes emerging from their responses are reported in this chapter.

**Chapter VII:** This chapter restates the need and objectives of the study and hypotheses framed for empirical testing. It discusses the major findings of the study based on quantitative and qualitative analysis of the data. It also lists the significant contribution of the present study. It gives certain recommendations that may improve the product appeal for borrower and lender. In the end it describes the limitations of the study and provides directions for future research.