BBVA RESEARCH

Economic Watch

Financial Inclusion - Mexico

Mexico City, October 2013
Economic Analysis

Financial Inclusion Unit
Carmen Hoyo
consuelodelc.hoyo@bbva.com

David Tuesta
david.tuesta@bbva.com

Reverse Mortgages in Mexico as a pension supplement

- **Reverse Mortgages have been allowed in the State of Mexico since July 2013**
  The Civil Code and the Financial Code of the State of Mexico have been amended to allow the concept of the Reverse Mortgage in that territory.

- **By means of the Reverse Mortgage contract, people aged over 60 will be able to receive a life annuity, using their own home as collateral.** Pensioners will be able to appoint their spouse or common-law wife/husband of older than 60 years old as beneficiary. The life annuity will be received as long as one of the two remains alive.

- **Global demographic trends point towards longer life expectancy**, which poses a challenge for financing retirement income.

- **Pension schemes are facing a variety of problems** that make them inefficient at providing sufficient income for what is an increasingly prolonged period of retirement.

- **Real estate assets can be turned into available resources for old age,** allowing greater liquidity when it comes to retirement.

- **Reverse Mortgages can help to offset the risk of longevity;** however, it is important to take into account the factors which can limit their development, in terms of structure, culture and economic context.

- **It is necessary to design mechanisms for mitigating risks** for both creditors and debtors, allowing Reverse Mortgage schemes to be made sustainable.

What is a Reverse Mortgage?

The reverse mortgage is a financial product designed for elderly adults who own a property, allowing them to convert the asset value of their property into money, without losing the ownership of the property. It consists of a non-reimbursable loan, using a property as collateral, and allowing the homeowner to continue living in the dwelling until his/her death, at which point the heirs can choose either to pay off the loan and recover the property, or not to do so - in which case the creditor will execute the guarantee (award or sell the property) to pay off the debt, and if anything remains, to hand it over to the heirs.

The capital lent may be provided in three different forms: a lump sum; a credit facility; or regular payments, either for a limited period of time or for the rest of the borrower's life (term annuity or life annuity). The amount lent depends on the borrower's age, interest rates and housing prices. There are no income or credit rating requirements for Reverse Mortgages, given that the payment is only guaranteed using the value of the property which the pensioner already owns. According to Caplin (2002), homeowners benefit from Reverse Mortgages because many of them do not satisfy the traditional requirements – proven income, maximum age - to be able to access a conventional mortgage.

There are several reasons why reverse mortgages can be an interesting alternative for people who are entering retirement. First, difficulties faced by the pension systems (public or private) in providing sufficient income on retirement. Second, the increase in life expectancy is gathering pace, and this is leading to adjustments in the pension benefits of future generations. Third, a large percentage of people of working age in Mexico simply do not save in any pension scheme[1]. As a result they depend financially on third-party assistance, above all their children or other family members. However, in all these cases people of retirement age may have property assets that could help diversify their sources of liquid income, and at the same time reduce the negative effects on the ability of their family members to accumulate wealth.

Although the Reverse Mortgage is a new development in Mexico, it has existed for a long time in other countries around the world, especially in the UK, where it was introduced in 1965, and the United States of America, available since 1989. Other countries where Reverse Mortgages have been introduced are Australia, Canada, Denmark, Spain, France, Netherlands, Japan, Norway and Sweden.

International experiences in Reverse Mortgages

UK

Equity release products began to be used in 1965 in the UK, and have allowed people of over 55 to obtain income from their property assets while continuing to live there. There are two types of product: Lifetime Mortgage and Home Reversion Plan. In the UK, 1% of people over the age of 65 who own property use these products[2].

1: 60% of the Economically Active Population works informally, so that it does not make contributions to any pension scheme.
2: Orts (2012).

a) Lifetime Mortgage

The consumer retains the ownership of the property and obtains a loan using the aforesaid property as collateral. The loan can be received as a lump sum, life annuity, credit facility or a combination of all three. Although some lenders offer the option of making regular interest payments, in most cases the consumer makes no payment. Instead, the interest builds up and is repaid together with the capital until the property is sold after the death of the owner or a permanent move (for example, to a residential care). Suppliers are financial institutions, residential developers and non-deposit lenders. It is a very small market, approximately £1 billion and on average 22,000 plans are sold every year[3].

b) Home reversion plans ()

The consumer sells his home to the lender. It can be total - if he completely sells the property - or partial, leaving a percentage of the value of the property available for an inheritance. In any event, the lender becomes the owner of the property. In exchange, the customer obtains a lump sum or a life annuity, or both, and the right to continue living in the property, until he or she dies or moves to an old people's home. Suppliers are financial services companies and specialized suppliers. The market is even smaller than the lifetime mortgage market, as fewer than 1,000 plans are sold a year.

Due to the high levels of real estate wealth of generations of elderly adults, equity plans play an important role in helping people to have retirement income. There are innovative flexible reverse mortgage plans which allow the customer to access small sums of capital at the outset, and giving him the opportunity to increase them in the future. This is a very useful possibility for people who presently have low liquidity needs, but who know that their needs will be greater in the future. Other innovations are products designed for special needs, such as customers with a low life expectancy (due to serious illness or disability), enabling them to obtain higher regular payments. Products which can be adapted to pensioners' needs will be critical for the future development of the equity release market.

United States

Reverse Mortgages began in 1989. From 2002 to 2009, the market registered favorable interest rates and increases in housing prices (Sánchez et al, 2007). From 2010 on, the market has shrunk due to the financial crisis. In 2011, only 2.1% of elderly homeowners had reverse mortgages[4].

There are different kinds of these mortgages. They differ in the way the loan is received and who offers it (see Reyes Arzate, 2010):

- **Single-purpose mortgages:** These are offered and backed only by some state and local governments, so they have a limited level of availability. Their acquisition and administration costs are low. No damage insurance has to be bought and the interest rate applied is lower, with either a fixed rate or simple interest. The resources of these mortgages can only be used for one specific purpose, such as to repair the home or pay the taxes on it. The money is paid in a single amount, and the loan is not returned provided the owner lives in the home.
- **Mortgages with federal insurance**: Are backed by the US government through the Federal Housing Administration (FHA), which guarantees that financial institutions honor the established payments. The amount of the loan depends on the value of the property - subject to a federal limit of US$625,500 - and the age of the proprietor. The loan will be returned when the owner dies; the heirs have the option of paying the loan and staying in the house, or selling the home and keeping any money left over, or handing over the property to the lender. If the value

3: The Smith Institute (2012). "Making the most of equity release: perspectives from key players"
4: Nakajima and Telyukova (2012)

obtained from the sale of the home is higher than the total amount of the loan, the heirs will receive the remaining value. Otherwise, if the value of the home cannot cover the total value of the loan, the heirs are not responsible for the remainder. The lender does not bear the aforesaid loss either, given that it is covered through the governmental mortgage insurance – the insurance premium is included in the total cost of the loan.

- **Private mortgages**. Offered by authorized private financial institutions, but without associated FHA insurance. They are known as "Jumbo" mortgages because the loan is higher than the amount obtained through a mortgage with federal insurance, as they are not subject to the federal limit established by the FHA, although they are usually more expensive. The popularity of Jumbo mortgages has gradually waned as the FHA limit for mortgages with federal insurance has increased[5]. Only unencumbered homeowners will be able to access them.

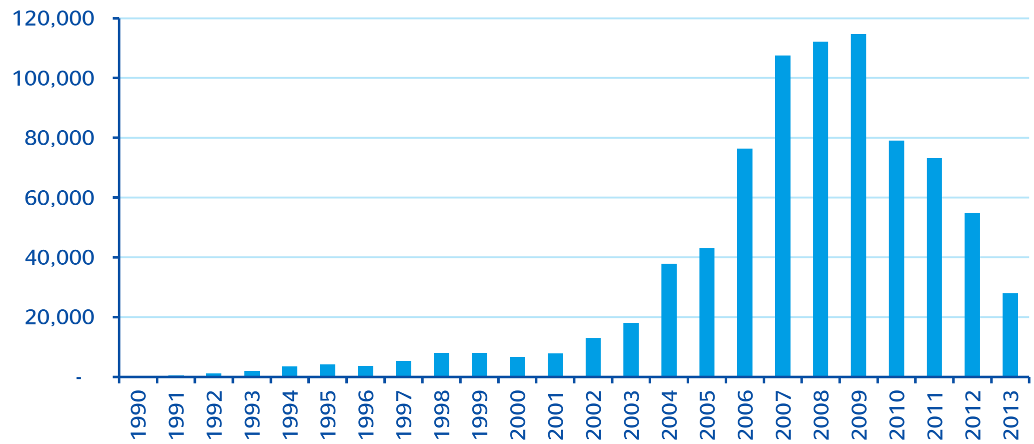
At present the most popular reverse mortgage with federal insurance is administered by the FHA, and is called a home equity conversion mortgage (HECM); while the private market has decreased. HECM loans account for around 90% of total reverse mortgages on the North American market[6]. To be eligible for the HECM mortgage the owner has to be over 62 years old and permanently resident in the home, and also receive independent advice. The loan is received as a lump sum, temporary income or life annuity, credit facility or a combination of all of them.

According to Orts (2012), the HECM has a specific mortgage insurance for this program, which guarantees that the applicant will receive the established payments while he is alive. When the accumulated debt reaches 98% of the maximum required amount[7], the mortgage is assigned to the FHA, so that the government will continue making payments to the pensioner, and accepts complete responsibility for the mortgage (even if the debt exceeds the value of the property, the borrower lives for longer than expected or the value of the property falls). This insurance offers ample protection, both for the homeowner –who is protected in case of financial insolvency of the provider- and for the lending institution; the premium[8] is financed with a percentage on the value of the home (initially 2% and then 1.25% of the loan balance).

From 2010 on,[9] a new more economic loan model called HECM SAVER, has been available. This model reduces the amount of the mortgage insurance premium to 0.01% of the home value, but also reduces the amount which the debtor can apply for, between 10 and 18%, while the interest rate is also higher. This product is designed for people who need a lower loan amount.

5: The limit is equivalent to 95% of the average sales prices, for example in 2009 the limit was USD$417,000.
6: Shan (2011), Nakajima (2012)
7: Minimum between the property value and the federal limit for HECM, which is currently equivalent to US$625,500
8: As it is a government program, the HECM insurance does not generate gains, but is used to continue insuring FHA mortgages
9: Mortgage Letter 2010-34 of October 21, 2010

Chart 1
Number of HECM loans



Source: National Reverse Mortgage Lenders Association (NRMLA), 2013

Spain

Reverse mortgages began to be sold in Spain in 2006. They are regulated by the Mortgage Market Reform Act 41 of 2007 and do not have any type of state insurance (as in the U.S.). Reverse Mortgages are granted by credit or insurance institutions to adults aged over 65. The property has to be the home of the applicant, and has to be appraised by a property surveyor; it also requires a property insurance.

The amount of the loan will depend on the value of the property, the age of the person and the form of income (lump sum, term annuity, life annuity). Once the mortgage borrower has died, the heirs have the option of returning the capital plus the interests and keeping the property, or receiving the difference between the debt and the market value of the property. The mortgage deed allows the possibility of renting it or changing residence (if the person has to move to a home for the elderly, for example). The interest rate applicable tends to be fixed, and when the period of receiving the income payments through the reverse mortgage ends, the interest accrued is generally the mortgage EURIBOR plus 2% (see Sánchez (2007)). Lending institutions have to offer independent advice to individual customers, in order to guarantee the rights of customers and adapt the product to their financial needs.

There is a strong tradition of inheritance in Spain. As a result, the development of this product is more difficult, despite the fact that 87% of people over the age of 65 are owners of their homes[10]. Another reason for the slow development of this market in Spain is lack of knowledge of these products. According to Sánchez (2007), over 2,000 reverse mortgages have been sold in Spain. The customer profile is a person of around 80 years old, with a property worth around 300,000 euros, who receives income for some 15 years.

10:See Martínez (2012)

Other countries

The reverse mortgage market exists in other countries, with varying degrees of development in each case:

- France established the Mortgage Life Mortgage (*Prêt Viager Hypothécaire*) in the Consumers Code of 2006, as a contract whereby a financial institution grants a natural person a loan backed by real estate asset, whose repayable amount will be required until the debtor's death.
- Reverse mortgages have existed in Canada since 1986. Reverse mortgages are offered by private institutions, without government insurance, to people of over 55, and the loan is for no more than 50% of the property's value. The received loan is not subject to taxes.
- In Australia, the market reached over 10,000 reverse mortgages in 2005. There is no specific regulation, but a voluntary code of conduct which the lending institutions which offer these products subscribe to.

The possibility of these contracts being added to the laws of certain countries raises questions which have not yet been resolved. One such case is Chile, where the question is still being considered, after the Securities and Insurance Supervisor (Superintendencia de Valores y Seguros) recently proposed that reverse mortgages be implemented as a supplementary solution to the low level of pensions.

It is important to note that reverse mortgages have come about as a response to the problem proposed by a longer life expectancy and the lack of resources in the third age, when pensions do not suffice to provide ideal cover to adults, as shall be analyzed below.

Potential of reverse mortgages in Mexico

In May 2013, reforms were made to the Civil Code and the Financial Code of the State of Mexico to introduce the Reverse Mortgage figure in that entity. However, no financial institution yet offers this product in Mexico, because changes in the banking and insurance regulations are required.

Importantly, the aforesaid regulation considers that the institutions which grant reverse mortgages can be private or social institutions, natural persons and public institutions which are authorized to do so. Another important consideration is that there is no mention of it being compulsory to contract a type of insurance (against damages or against the risk of negative equity) for these schemes. The table below shows the main aspects of the new regulation.

Box 1. Reverse Mortgage Regulation in the State of Mexico

Pursuant to the Civil Code of the State of Mexico, by virtue of the Reverse Mortgage or Mortgage Pension product, the provider (institution which grants the loan) is obliged to pay a life annuity to the pensioner or to its beneficiary, using the real estate asset which is the normal residence and property of the pensioner as collateral.

The providers can be private, social or public institutions, as well as natural persons which are authorized for that purpose.
The reverse mortgage contract has to comply with the following characteristics:

i. The amount agreed between the provider and pensioner has to be sufficient for the latter to be able to cover his/her basic necessities;
ii. The applicant or his/her beneficiary (spouse or common law wife/husband) will have to have an age equal to or higher than 60 years;
iii. The debt will only be payable and the collateral enforceable upon the death of the pensioner and the beneficiary;
iv. The pensioner will be able to make a total or partial advance payment without any form of penalty whatsoever;
v. The pensioner will inhabit the mortgaged property for life. However, he or she shall be entitled to partially or wholly lease the mortgaged property, provided he/she has the express authorization of the provider and the terms and conditions of the lease are established in the corresponding agreement;
vi. The interests earned on the capital will be only on the amounts drawn by the pensioner;
vii. The contract will specify the annual increase in the pension, in accordance with market conditions and the value of the property.

The reverse mortgage shall be determined by means of an appraisal to determine the market value of the property. The pension scheme shall cover the cost of this valuation, and it has to be updated every 2 years in order to be adjusted with the gain acquired by the property over the course of time.

When the pensioner and his/her beneficiary die, their heirs will be able to pay the provider all the existing debt which is due. However, if no payment has been made six months after the death, the pension scheme will collect the debt up to the level of the value of the mortgaged asset, and may request that it be auctioned or sold.

Were the provider to fail to comply with the agreed steps, the pensioner shall be entitled to request the cancellation of the agreement and demand payment of damages. Furthermore, the debt shall be considered to be settled and shall not earn more interest; and the pension scheme will have to pay the corresponding amounts at its own expense.

In order to provide an overview of the potential for reverse mortgages in Mexico as a supplement for pension income, we shall briefly analyze the challenges faced by the pensions system in Mexico, and carry out an exercise regarding the impact reverse mortgages may have on the replacement rate of Mexican Social Security Institute (IMSS) pensioners, in both 2013 and 2050.

Problems Faced by the Pensions System

When the pension system reforms in Latin America were begun and individual capitalization systems were introduced in a number of countries in the region, it was expected that in the medium term the bulk of the labor force would be covered by these systems. However, the pension coverage levels are far from ideal, and most of the labor force is without any old-age protection. The high level of informality in the labor market, as well as people's limited pension culture, have not encouraged the increase of coverage significantly over recent years

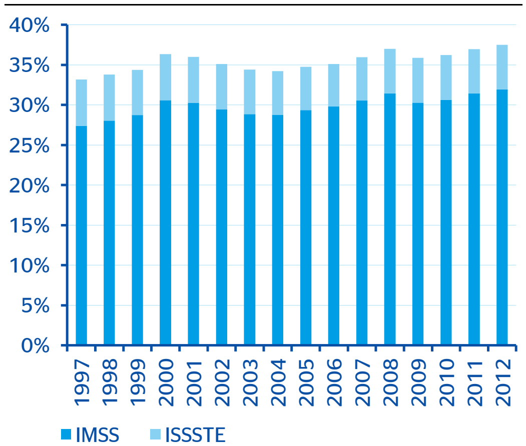
There is considerable room for improvement in pension coverage and sufficiency; a substantial proportion of the economically active population (EAP) is not included in any pension scheme and many people do not achieve sufficient pensions. The reasons for this problematic situation are as follows:

- **Structural:** Internal problems of countries which require far-reaching reforms, such as the informal economy, poverty, failures in labor markets, which give rise to low contribution densities
- **Parametric:** Quantitative rules for pension schemes which limit the sufficiency of saving, such as low contribution rates, early retirement age, minimum requirements for accessing a pension, generous pensions in pay-as-you-go systems
- **Demographics**: Greater life expectancy, causing an aging of the population
- **Financial markets**: A probable scenario of low future returns, often as a consequence of the lack of supply of long-term financial assets.

In Mexico in particular, the main contributory pension systems for workers in the formal sector cover around 39.9% of the EAP, with the most important being the Mexican Social Security Institute (IMSS), to which formal workers in the private sector contribute, with a coverage of 32.9% of the EAP; and the Social Security Institute for Public-Sector Workers (ISSSTE) for federal government workers, covering 5.6% of the EAP. Apart from this there are the state government pension systems, those of public universities and state-owned companies, all with a coverage of 2% of the EAP. It is important to note that informal workers (60% of the EAP[11]) are not legally obliged to register and make contributions to a pensions system.

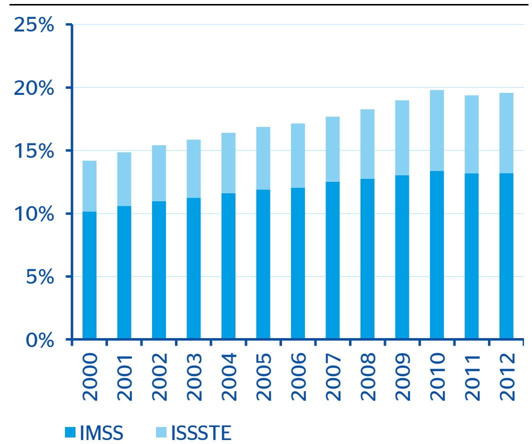
Coverage in old age (number of pensioners as a percentage of the population over the age of 65) has remained practically constant at around 20%. This situation is of particular concern if we consider the change in the population structure (aging population) that will take place in the medium term.

Chart 2
Labor coverage of Pension Systems in Mexico (% EAP)



Source: BBVA Research with IMSS and ISSSTE data

Chart 3
Old-age coverage of Pension Systems in Mexico (% older adults)



Source: BBVA Research with IMSS and ISSSTE data

The replacement rate[12] of pensions will be affected in future years due to exogenous factors to the pensions system such as a high rate of labor informality, low contribution densities, a very low contribution rate and improved life expectancy (greater cost of life annuity). Currently, the Law 73 IMSS pension (defined benefit) grants an average replacement rate of 75%; from 2031 on,

11: According to the 2012 National Occupation and Employment Survey, workers who are independent or do not have a contract are considered to be informal.
12: Calculated as the amount of pension divided by the worker's last salary

however, we can expect the first pensions of Law 97 (defined contribution), which will grant an average replacement rate of 37%[13].

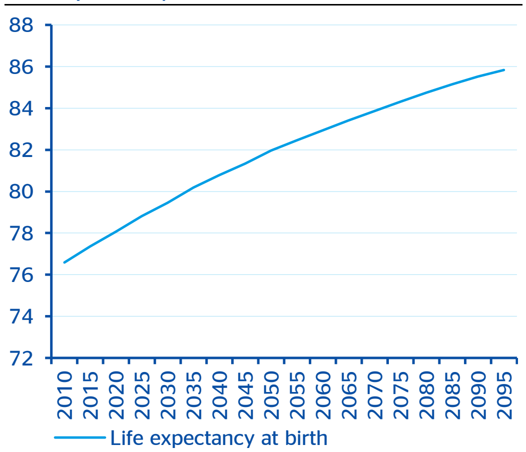
Therefore, it will evidently be necessary to save more (voluntary saving) or to convert other sources of wealth (real estate assets) into cash. Here, reverse mortgages can help to improve liquidity at what is an increasingly long retirement age, by turning illiquid assets into liquid flows.

Demographic context

Global demographic trends point to an aging of the population due to greater life expectancy and a reduction in the birth rates, thus putting pressure on financing in retirement income. Most pension schemes are facing a variety of problems that make them inefficient in the task of providing sufficient income for what is an increasingly prolonged period of retirement.

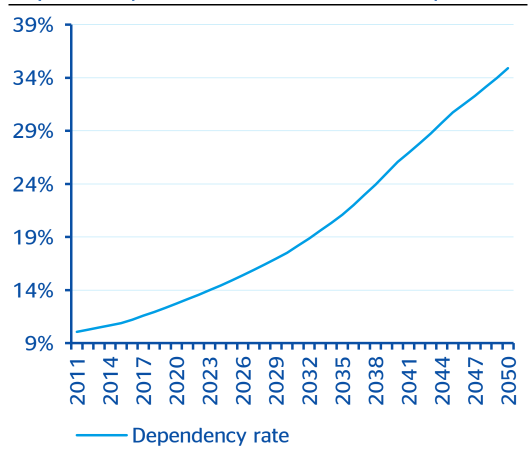
According to estimates by the Latin American Demographics Center (Centro Latinoamericano de Demografía, CELADE), life expectancy at birth in Mexico will increase from 75.8 in 2011 to 85.8 in 2050, while the dependency rate (over 65 / population aged 15 to 64 years) will increase from 10.1% in 2011 to 34.9% in 2050.

Chart 4
Life expectancy at birth



Source: BBVA Research with CELADE data

Chart 5
Dependency rate (65 and more/ 15-64 years)



Source: BBVA Research with CELADE data

Therefore, the section of the population made up of older people is growing larger and larger, and most of them lack sufficient economic income. On the other hand, the social housing policy implemented in Mexico in recent years, has brought about a considerable increase in the offer of housing for the middle classes and salaried employees. Consequently, the number of homeowners is increasingly significant, as indicated in the 2012 National Survey of Income and Expenditure for Mexican Households (ENIGH), given that at national level, 82.4% of people over the age of 60 own their home. According to the information provided by the Federal Mortgage Society (Sociedad Hipotecaria Federal, SHF), the average property value nationwide is $636,163.

Simulation of a case of reverse mortgages

By way of an exercise, and taking into account the information provided by the SHF regarding the average property value nationwide, we calculate the impact which the reverse mortgage can have on the replacement rate[14] of an old age pensioner.

13: MAPP2 BBVA Research estimates

We first calculate the replacement rate of an IMSS old-age pension received by a person 65 years old, as the weighted average of pensions of people aged 65, with different socio-demographic characteristics, considering the observed salaries, balances and density of contributions by age, sex and educational level of those workers who contributed to their individual account between 2008 and 2011.[15] Secondly, the replacement rate is compared to that which would be obtained if a reverse mortgage were contracted, receiving the loan in the form of a life annuity. This exercise is calculated for two points in time: for people who would retire in 2013, and people who would retire in 2050, in order to measure the impact it could have in different points in time, for workers with different pension rights[16]. These workers will also be impacted by the risk of longevity through the increase in life expectancy[17]. The assumptions of the calculation are presented below:

Table 1
Assumptions for life annuity calculation

Fee on balance (Afore)	1%	Mortality table	EMSSAH 2009
Individual account real return	4%	Life annuity discount rate	2.62%
Real increase in the value of the housing (annual)	1%	Life annuity fee	2%
Real increase in salaries (annual)	2%	Contribution to individual account	6.5% salary

Source: BBVA Research

By contracting a reverse mortgage, the replacement rate for this individual could increase from 75% to 122% in 2013, while in 2050, the replacement rate increases from 37% to 82%, as shown in the following table:

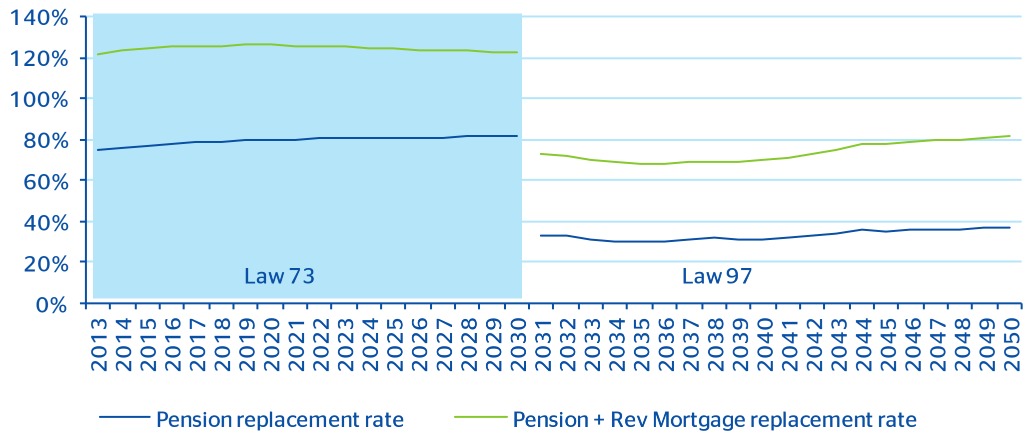
Table 2
Replacement rate with and without reverse mortgage, in 2013 and 2050

	2013	2050
Salary	5,534	7,947
Property value	636,163	919,304
Pension replacement rate	75%	37%
Pension replacement rate + reverse mortgage	122%	82%

Source: BBVA Research

14: Percentage represented by pension in comparison with the last salary.
15 Data from the National Commission of Retirement Savings System
16: Workers belonging to the IMSS transition generation (who contributed prior to July 1997) can choose between the defined benefit pension of Law 73 of the IMSS and the defined contribution pension which they would obtain with the balance of their Afore. Workers who began to contribute from July 1997 on (Afore generation) obtain a pension which depends on the accumulated balance in the individual account.
17: The mortality tables used to calculate the Life Annuity (EMSSA 2009), are dynamic mortality tables which consider the future improvements in life expectancy

Chart 6
Projected replacement rate with and without reverse mortgage



Source: MAPP2, BBVA Research

Conclusions

An exercise on the possibilities of developing reverse mortgage schemes as a pension supplement in the case of Mexico was conducted, with the available information on the nationwide average value of housing from the SHF, data form national household surveys and socio-demographic characteristics of IMSS contributors. The results allow us to observe that reverse mortgages could be a way of partly offsetting longevity risk in Mexico over the coming decades.

The projections showed that the replacement rate for defined contribution pensions (Law 97) will be in average 37%. The low replacement rates are due to the high labor informality rate –close to 60%- that results on a low density of contribution; and to the low rate of contribution to the pension system -6.5% of salary-.

Under the current parameters, this situation points out to the need of a diversification of retirement income, with voluntary savings as well as equity release schemes. In this sense, reverse mortgages can help to improve the liquidity at retirement. Specifically, the replacement rates in the pension system for a 65-year old pensioner, with the inclusion of a flow of life annuities from real estate assets, would increase from 75% to 122% in 2013, and from 37% to 82% in 2050.

Although the potential inherent in a reverse mortgage scheme is of interest for tackling the problem of future risks in old age, there are also a number of elements to take into account that in some way represent restrictions on its growing popularity. First, there has to be a change of mentality among the population so that people can consider their home as savings they have available for use when necessary. Moreover, reverse mortgages are still not well known as a financial product among the population in general and there is little competition. It is also clear that mortgage companies and financial and insurance institutions are not prepared for the management of massive housing portfolios. Besides, the providers need expertise both in mortgages and life annuities, but mortgage institutions do not have expertise in life annuities and vice versa. The sector therefore has to be reorganized and new specialist companies created. Last, but not least, are the implications of financial crises and the normal volatility of the real-estate markets, that create risks for both lenders and borrowers. Strategies have therefore to be put into place to mitigate these risks and regulate them adequately.

Reverse mortgages have a potential to substantially increase pension replacement rates. In general, these results lead us to a broader reflection on the financial risks of retirement and the possibility of a wider range of sources of income to support this period of inactivity. Governments should not only focus on the design of pension systems per se, but on generating financial structures that make it easier to convert illiquid assets into a flow of liquid income that will be increasingly necessary in a scenario where life expectancy continues to increase.

References

Alonso, J., Lamuedra M. y Tuesta, D (2013). Potencialidad del desarrollo de hipotecas inversas como complemento pensionario: el caso de Chile. BBVA Research. Documento de Trabajo 13/09

Caplin, Andrew. 2002. "Turning Assets into Cash: Problems and Prospects in the Reverse Mortgage Market." Innovations in Retirement Financing. Pension Research Council. University of Pennsylvania

Martínez, Antonio. (2012). Hipoteca Inversa. Universidad de Mayores de Experiencia Recíproca.

Nakajima, M., Telyukova, I. (2013). Reverse Mortgage Loans: A Quantitative Analysis.

Reyes Arzate, B. (2010). "Hipoteca Inversa sobre el valor del terreno de la Ciudad de México". Trabajo presentado para el XVII Premio de Investigación sobre Seguros y Fianzas 2010.

Sánchez, I., López, S. y Quiroga, R. (Marzo 2007). "Diseño de hipotecas inversas en el mercado español". Instituto de Mayores y Servicios Sociales. Proyecto 205/05.

Shan, Hui (2011). Reversing the Trend: The Recent Expansion of the Reverse Mortgage Market.

The Smith Institute (2012). Making the most of equity release: perspectives from key players.

Orts, María Jesús (2012). Hipoteca Inversa. Tesis doctoral Universidad de Salamanca.