

The Reverse Mortgage Market in Japan and Its Challenges

Masahiro Kobayashi

Shoichiro Konishi

Toshihiko Takeishi

Japan Housing Finance Agency

Abstract

The reverse mortgage is popular in the United States for elderly homeowners to enjoy a fruitful life by receiving an annuity or other financial benefits through leveraging owned houses. The Home Equity Conversion Mortgage (HECM) insured by the Federal Housing Administration is securitized in HECM mortgage-backed securities, or HMBS, guaranteed by Ginnie Mae—both are government agencies in the United States. Reverse mortgage markets exist in other jurisdictions, including the United Kingdom, Australia, and Canada, among others, without direct intervention from the public sector; however, the size of the reverse mortgage markets in those jurisdictions is much smaller than in the United States.

Japan is the forerunner of an aging society, and the country has good reason to develop a reverse mortgage market to supplement the spending power of elderly homeowners. The persistent decline of property prices after the collapse of the asset bubble in the early 1990s hindered the development of the reverse mortgage market, because financial institutions were not willing to underwrite credit risk associated with such transactions. This article describes the current status of the reverse mortgage market in Japan and analyzes challenges for the development of the market by comparing foreign cases.

Introduction

An ordinary mortgage, or a forward mortgage, is a financial transaction in which a homebuyer incurs liability to purchase a home and pledges that property as collateral for the payment of interest and principal in a scheduled amortization. As the borrower pays monthly interest and principal, the outstanding balance of the mortgage declines and home equity increases.

A reverse mortgage, on the other hand, is exactly the opposite transaction. The borrower of a reverse mortgage typically receives an annuity, a credit line, or a lump-sum amount from the

lender; accrued interest is added onto the outstanding balance; and the total obligation grows until the borrower vacates the home. At that time, the borrower or the borrower's heirs can satisfy the debt; otherwise, the property is eventually transferred to the lender who sells the property in the open market to try to satisfy as much of the debt as possible. The lender has no recourse against the borrower or the heirs if the sale proceeds are insufficient to satisfy the entire debt. The United States has the largest reverse mortgage market in the world, so far as we have monitored. Unique to the United States reverse mortgage market is the substantial involvement of the public sector in the form of mortgage insurance by the Federal Housing Administration (FHA) and a guarantee on timely payment on mortgage-backed securities (MBS) by Ginnie Mae—both organizations function within the U.S. Department of Housing and Urban Development (HUD).

The reverse mortgage market exists in other jurisdictions, including the United Kingdom, Australia, and Canada, among others, without direct intervention by the public sector. The size of the reverse mortgage markets in those jurisdictions, however, is much smaller than in the United States.

In some jurisdictions in Europe, the aging society is advancing as rapidly as in Japan and a negative demographic trend, coupled with the sustainability of a social security system, including pensions, prompted policymakers to pay attention to reverse mortgages to supplement the incomes of older homeowners (European Commission, 2010, 2014).

It may be natural to assume that if reverse mortgages become more available for elderly homeowners, it may enhance their social welfare, reduce the uncertainty for their futures, and reduce budgetary appropriations relating to social security expenditures for them. In addition, enhanced confidence in the sustainability of social security systems would stimulate personal consumption expenditures.

Housing assets are usually less liquid compared with financial assets. Reverse mortgages convert such illiquid assets into cashflow and benefit the “asset rich, cashflow poor”¹ segment of households (exhibit 1).

Some advanced economies with proelderly social security systems have fewer “asset rich, cashflow poor” households because of pension payments, and the demand for reverse mortgages may become less realized, not because of the design of the reverse mortgage products but because of less need.

A certain demand for reverse mortgages would exist. Making the reverse mortgage a viable and sustainable product, however, would require more justification if it were to be supported by the public sector. Even in the United States, a policy discussion on the actuarial value of the mortgage insurance for HECM is under way.²

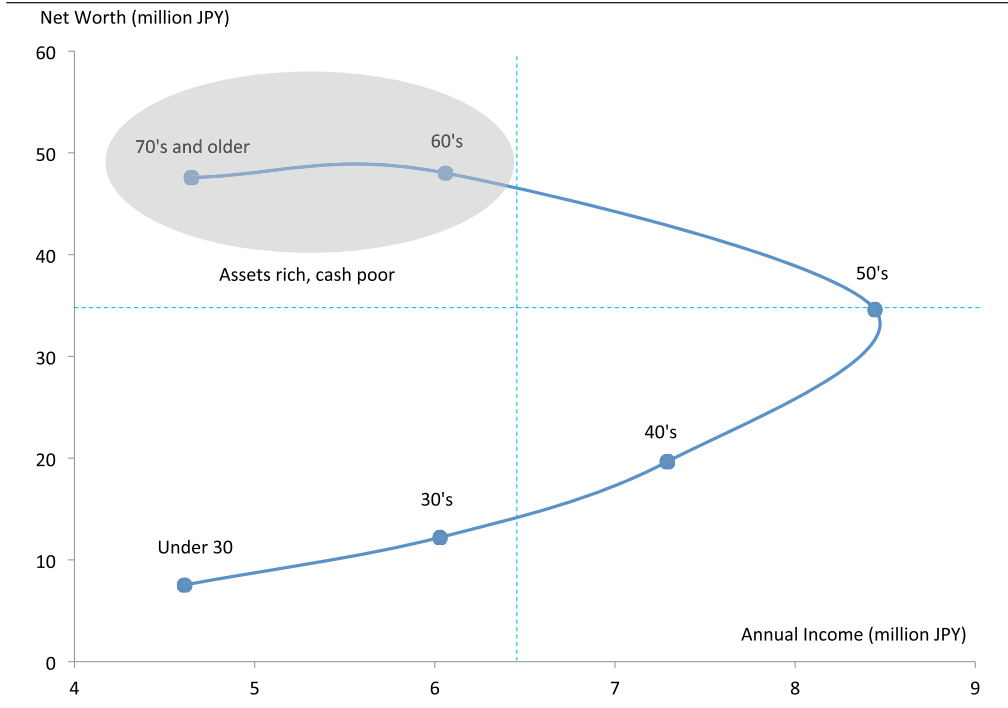
Japan is the forerunner of an aging society, and the country has good reason to develop a reverse mortgage market to supplement the financial condition of elderly homeowners. The persistent decline of property prices after the collapse of the asset bubble in the early 1990s hindered the

¹ In Japan, the cabinet resolution “Basic Policy on Economic and Fiscal Management and Reform 2006,” released in July 2006, stated that “lending through reverse mortgage should be prioritized” in case that the elderly citizens requesting public protection under the social security system who own houses. Reverse mortgage was advocated in the context of the reformation of the social security system as a method of fiscal consolidation for the vulnerable (“integrated reform of revenues and expenditures”).

² HUD (2015: 9) states, “Our projections indicate that, as of the end of FY [fiscal year] 2015, the HECM portion of the MMI fund has an economic value of positive \$6,778 million.”

Exhibit 1

Assets and Income by the Age Group of Household Heads in Japan



JPY = Japanese yen.
Source: MIAC (2014)

development of the reverse mortgage market, because financial institutions were not willing to underwrite credit risk associated with such transactions. This article describes the current status of the reverse mortgage market in Japan and analyzes challenges for the development of the market by comparing foreign cases.

History of the Reverse Mortgage in Japan

The first reverse mortgage product in Japan was introduced by a local government unit, not by a financial institution. Musashino City, in the western part of the Tokyo Metropolitan Government, introduced a reverse mortgage in 1981. An expert group hired by Musashino City, however, recommended abolishing the reverse mortgage program in 2014; the program actually terminated on March 31, 2015.

The Ministry of Health, Labour, and Welfare introduced a national government reverse mortgage program in 2002; the program is implemented through the Social Welfare Council of each prefectural government. In 2007, the reverse mortgage program was expanded to supplement social security assistance for households in need of social security assistance. Many local government units have been suspending proprietary programs to implement those national programs.

Several private financial institutions introduced reverse mortgages around the turn of the century, but reverse mortgage products became popular only after the Tokyo Star Bank introduced a “deposit collateralized reverse mortgage” in 2005. The target segment of Tokyo Star Bank is “tangible asset rich, financial asset rich, but cashflow poor” elderly homeowners. The interest rate charged to the reverse mortgage is zero until the amount drawn exceeds the amount of deposits of the borrower. As of November 2015, Tokyo Star Bank had received 4,700 applications for reverse mortgages, which is estimated by industry experts to account for nearly one-half of the outstanding reverse mortgages.

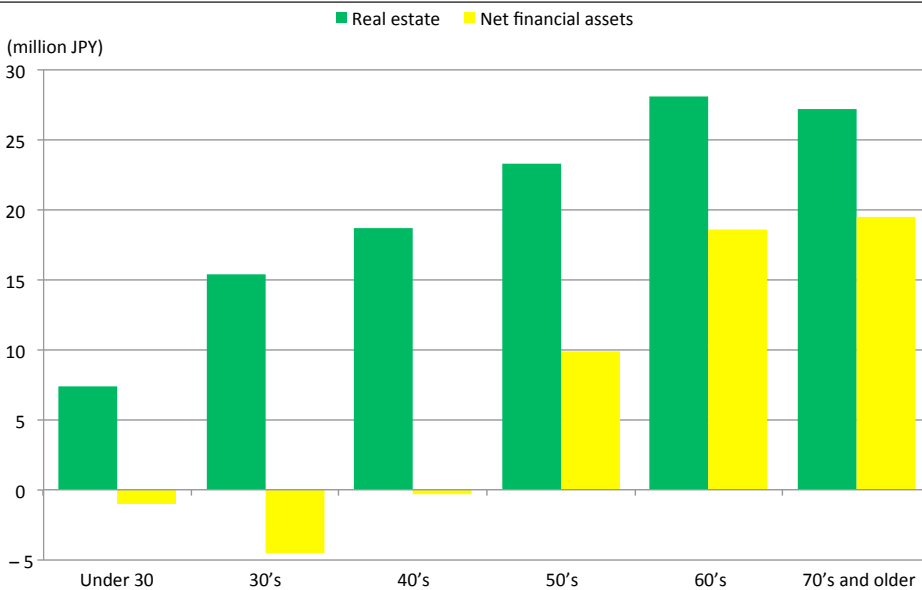
Elderly people in Japan are usually rich, not only in tangible assets but also in financial assets (exhibit 2). These people may use their deposits for their daily expenditures, but they would rather maintain the balance of their deposits to prepare for unexpected large expenditures, such as emergency medical treatment. The hybrid reverse mortgage product of Tokyo Star Bank addressed the needs of these elderly customers.

With the success of Tokyo Star Bank, all three mega banks³ in Japan have introduced reverse mortgage products, two of which are using the Japan Housing Finance Agency’s (JHF’s) mortgage insurance program.

The interest rates charged to the reverse mortgages are higher than those charged to ordinary forward mortgages and stand almost the same as secured consumer loans in Japan, which is slightly below 3 percent per annum. The rates are much lower than those for unsecured consumer loans (exhibit 3).

Exhibit 2

Amount of Real Estate and Net Financial Assets Held by Age Group, as of 2014

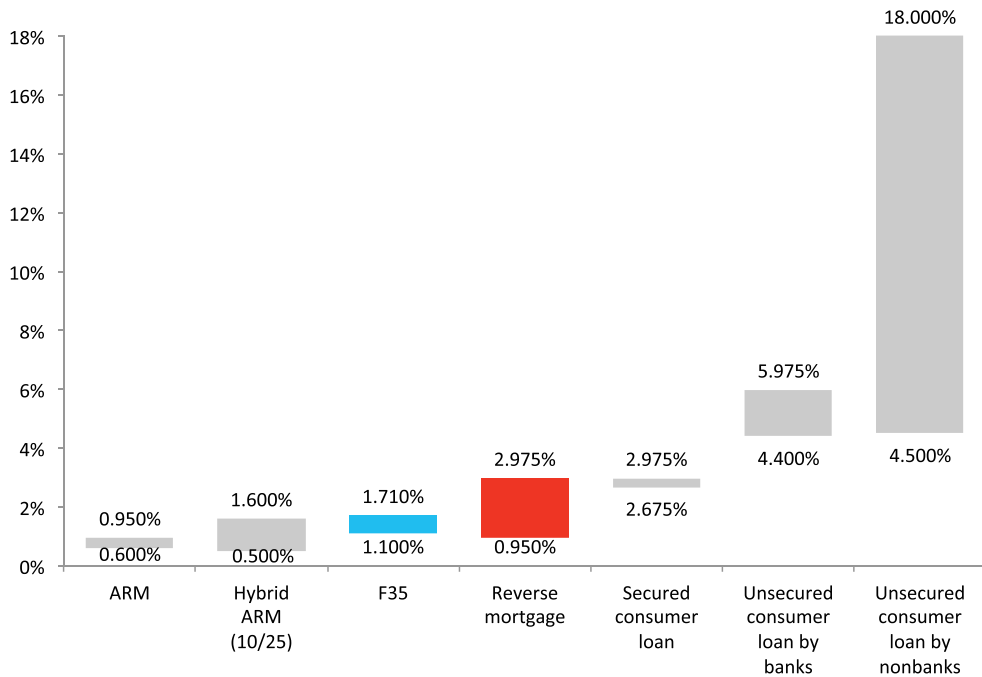


JPY = Japanese yen.
Source: MIAC (2014)

³ The three mega banks in Japan are the Bank of Tokyo-Mitsubishi UFJ, Sumitomo Mitsui Banking Corporation, and Mizuho Bank.

Exhibit 3

Interest Rates on Various Financial Products in Japan, as of June 2016



ARM = adjustable-rate mortgage. F35 = 35-year fixed-rate mortgage sponsored by the Japan Housing Finance Agency. Source: Based on the websites of financial institutions listed and a hearing involving those institutions by the Japan Housing Finance Agency during June 2016

On May 28, 2012, the Financial System Council released a report on the medium- and long-term strategies for the Japanese financial industry, in which the reverse mortgage was referred to as a financial instrument to enhance liquidity to assets held by elderly households who are rich in assets but whose assets are illiquid on balance.

A survey conducted by JHF in February 2016 shows that 20.8 percent of the Japanese financial institutions responded that they are offering or planning to offer reverse mortgage products. Reverse mortgage products of JHF are explained separately in the section titled “Reverse Mortgage Products Sponsored by JHF.”

Some of the products are nonrecourse to the personal assets of the borrowers, while others require the heir(s) to be responsible for the remaining balance if the value of the collateralized property does not satisfy the obligation. In some cases, to protect the borrowers and their heirs, special counseling is conducted before the conclusion of the contract. Otherwise, many lenders require prior consent by the reasonably presumed heirs to dispose of the property to avoid conflict at inheritance.

Several local government units have introduced reverse mortgage programs for victims of natural disasters as exceptional policy measures to mitigate damage and encourage restoring their daily lives (box 1).

Box 1

Review of the Reverse Mortgage Program of Musashino City in 2014

Two options were recommended by an expert group to reform the reverse mortgage program as follows.

1. Totally abolish the program.
2. Maintain the program while tightening the conditions for the loan, including increasing the age for eligible borrowers and reducing the amount of the loan.

Following discussions regarding the two options, the expert group summarized the recommendations as follows.

1. The reverse mortgage program by the Musashino City was pathbreaking, but many private financial institutions have launched similar programs and the need for the city to maintain the program independently has decreased.
2. Even if the conditions for the loan are tightened, risks associated with the program will not be alleviated; hence, it would be costly for the city to maintain the program.
3. Expenditures using taxpayers' money should have a broader beneficiary base and should not concentrate on a particular group.

The majority opinion was to abolish the program. A minority opinion noted that some elderly people would prefer to stay in their home, to which they are accustomed, and that the transfer from their home would increase additional physical and psychological burden on them; hence, the program should not be abolished.

Overview of the Reverse Mortgage Market in the Transpacific Region and Others

The United States

In the United States, the reverse mortgage market made significant steps with the introduction of the Home Equity Conversion Mortgage in 1989. Fannie Mae, a HUD agency, previously purchased HECM under the Home Keeper reverse mortgage loan program but terminated the program in 2008. Since then, the main funding source for HECM has been HECM mortgage-backed securities (HMBS) and HMBS real estate mortgage investment conduits (HREMICS) guaranteed by Ginnie Mae.

The reverse mortgage is basically a nonrecourse loan; that is, any deficiency after the disposition of the collateralized property cannot be claimed against the personal assets of the borrower. This feature of the loan is one reason why the reverse mortgage has not been very popular outside the United States, especially in Europe, where mortgages are usually recourse loans. Even in the United States, however, the number of applications/endorsements peaked in 2009 (exhibit 4).

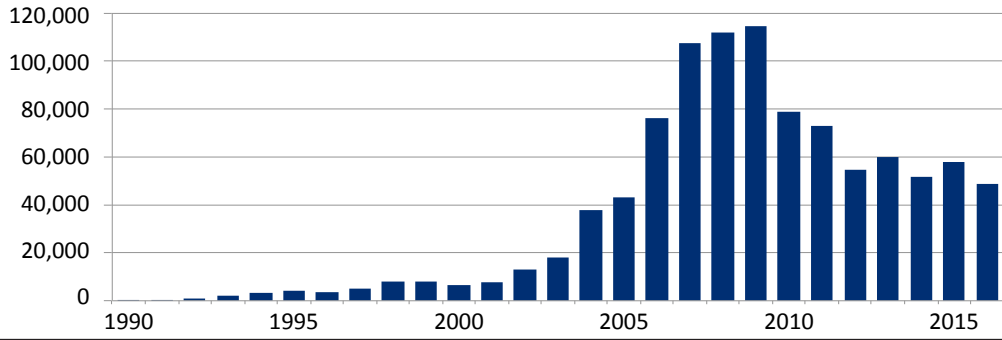
The decline in the number of HECM endorsements since 2009 can be attributed to the following factors.

1. Increase in the amount of the insurance premium.
2. Decrease in the number of financial institutions that make HECM loans.
3. Decline in home prices.

This third factor suggests that the sustainable growth of home prices is an important factor for the reverse mortgage market.

Exhibit 4

Number of HECM Endorsements per Fiscal Year



HECM = Home Equity Conversion Mortgage.
Sources: FHA (2012, 2016)

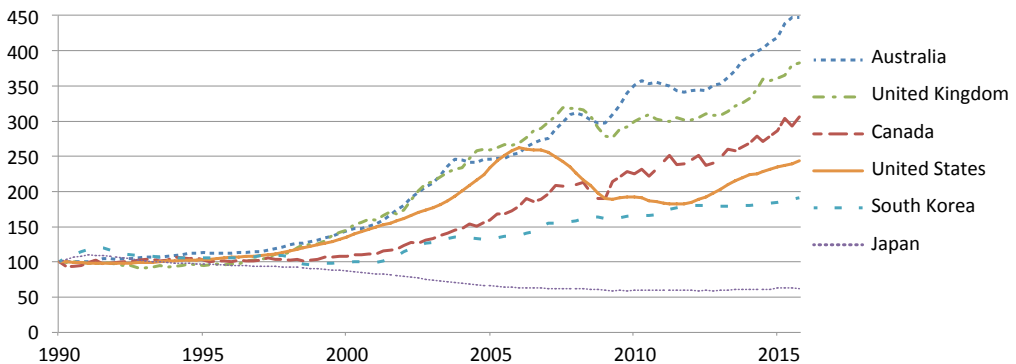
The United Kingdom

In the United Kingdom, a reverse mortgage is referred to as an “equity release.” A boom of these mortgages occurred in the late 1980s, but equity releases got a negative reputation after the collapse of the housing bubble in the 1990s. An industry group named Safe Home Income Plans (SHIP), however, launched the “standard,” a self-imposed regulation, in 1991 and, since then, more than 350,000 people have taken out an equity release plan from the members of SHIP, drawing on nearly 17 billion pounds sterling of housing wealth. SHIP evolved to become the Equity Release Council in 2012.

The United Kingdom is an English-speaking jurisdiction that has attracted many immigrants, similar to the United States, Australia, and Canada. In these four jurisdictions, housing prices have continued to rise, which may have contributed, to some extent, to the development of a reverse mortgage market without government intervention (exhibit 5).

Exhibit 5

BIS Property Price Index, 1990 (Q1 = 100)



BIS = Bank for International Settlements. Q1 = first quarter.
Source: BIS (2016)

That said, the constraint of housing supply in the United Kingdom has a negative effect on the affordability of housing, especially for younger generations. What is good for elderly homeowners may work adversely for young renters. The United Kingdom government is planning to expand its Lifetime Investment Savings Account (LISA) in 2017 for first-time homebuyers, but the low elasticity of the housing supply in the United Kingdom may cause the benefit to translate into higher home prices (Hilber and Schöni, 2016).

Australia

Australia is also experiencing an aging population. The proportion of people who are older than age 60 has increased from 13.1 percent in 1971 to 17.7 percent in 2005.

The vast majority of assets held by the elderly population (those age 65 or older) are property assets, accounting for around 60 percent, and the proportion of financial assets is around 20 percent.

Because of these two factors, the “reverse mortgage market has gained considerable momentum in Australia since the 1980s” (AHURI, 2010: 1). According to the Senior Australian Equity Release Association of Lenders (SEQUAL) and Deloitte (2013), the outstanding number of cases of reverse mortgages in Australia was more than 40,000 as of December 2013 (exhibit 6). According to AHURI (2010), Australia had 10 reverse mortgage products in 2010; of those, 6 were from SEQUAL-accredited lenders, 3 were from non-SEQUAL-accredited lenders, and 1 was from the Australian government through Centrelink. The single largest reverse mortgage lender in Australia was Royal Bank of Scotland, which bought ABN AMRO Bank and accounts for 70 percent of the market.

According to ASIC (2016), the maximum loan amount starts at 15 to 20 percent of the value of the property for 60-year-old borrowers, and the ratio increases by 1 percent as the borrower ages, which translates to maximum loan amounts between 25 and 30 percent of the value of the property for 70-year-old borrowers.

Exhibit 6

Statistics on Reverse Mortgage Market in Australia, as of 2013

Items	Figures
Settlements	4,300 new borrowers, 302 million AUD
Outstanding loans	41,500 loans, 3.6 billion AUD
Share of adjustable rate	90%
Share of lump sum	94%
Share of capital cities ^a	88%
Use of proceeds	Income (50%), debt payment (33%), home improvement (14%)

AUD = Australian dollars.

^a Capital cities are of six states and two territories.

Source: SEQUAL and Deloitte (2013)

Canada

The elderly population in Canada is also growing rapidly.

One major player in the Canadian reverse mortgage market is HomEquity Bank, whose forerunner was the Canadian Home Income Plan Corporation (CHIP), established in 1986. Effective in

October 2009, HomEquity Bank took over the issuance of CHIP Reverse Mortgages. HomEquity Bank is a subsidiary of the HOMEQ Corporation. The outstanding balance of reverse mortgages held by HomEquity Bank in 2009 was 650 million Canadian dollars (CAD), which increased to 1.58 billion CAD in 2015. The annualized growth rate was 16.04 percent.

The borrower of a CHIP Reverse Mortgage must be a Canadian national age 55 or older who owns a house. The maximum loan amount is 55 percent of the value of the property. The minimum mortgage amount is 25,000 CAD for a lump-sum initial advance and 10,000 CAD for each subsequent advance. The interest rate is 4.95 percent for a variable rate, as of July 2016.

South Korea

The reverse mortgage market in South Korea expanded when the government amended the Korea Housing Finance Corporation (KHFC) Law in 2007 to allow KHFC to guarantee reverse mortgage products provided by private financial institutions (exhibit 7). KHFC, which was established in 2004, is owned by the government and central bank of South Korea.

The main features of the reverse mortgage products sponsored by KHFC are as follows.

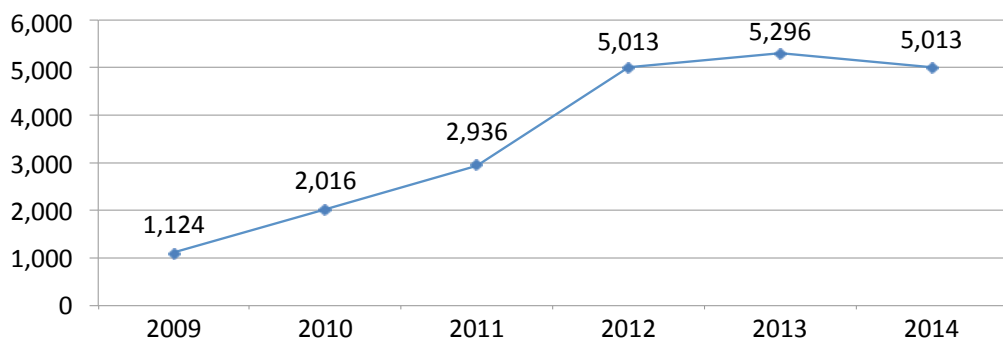
- Borrower age: 60 years or older.
- House price: less than 900 million South Korean won (800,000 U.S. dollars [USD] equivalent).
- Interest rate: 3-month certificate of deposit + 1.1 percent.

KHFC-sponsored reverse mortgage products include an incentive to reduce property tax by 25 percent. More than 20,000 people have applied for KHFC-sponsored reverse mortgages.

To summarize, the development of the reverse mortgage market is driven by government agencies in the United States and South Korea, but it is driven by the private sector alone in the United Kingdom, Australia, and Canada, where the size of those countries' markets is relatively small compared with the market in the United States. In English-speaking jurisdictions, the continuous growth of home prices has supported the development of the reverse mortgage market as well.

Exhibit 7

Number of KHFC-Guaranteed Reverse Mortgages



KHFC = Korea Housing Finance Corporation.
Source: KHFC (2014)

Reverse Mortgage Products Sponsored by JHF

The Japan Housing Finance Agency was established in 2007 to replace its forerunner, the Government Housing Loan Corporation (GHLC). GHLC introduced a program called the “exceptional repayment schedule for elderlies” into the fiscal year (FY) 2001 budget. The program is entirely different from ordinary forward mortgage programs, but it is also different from the United States’ HECM program because it is not used to draw cash for daily expenditures. JHF introduced another program later, which is discussed in a later section.

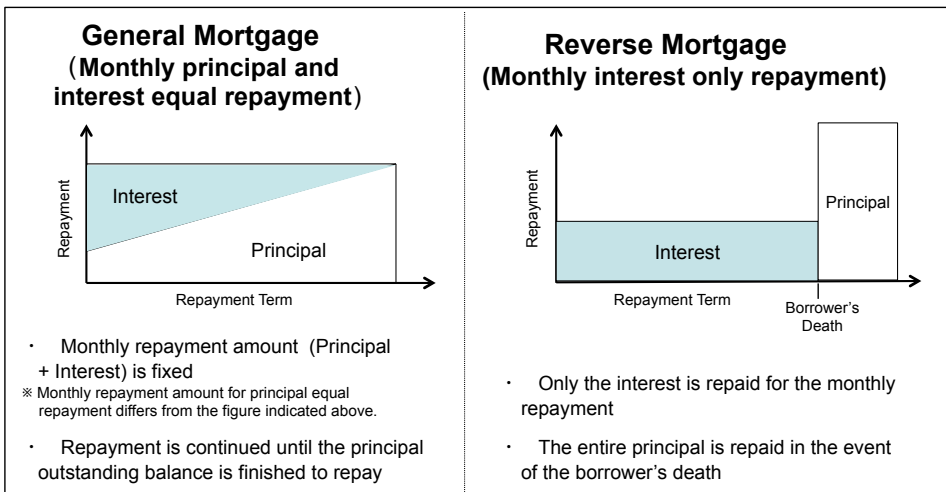
Direct Origination of Loans With “Exceptional Repayment Schedule for Elderlies”

This program is offered to borrowers age 60 or older to renovate the housing unit in terms of accessibility or earthquake resilience. The borrower pays interest every month, and the loan is to be repaid at the time of the death of the borrower (or the co-borrower) in a lump sum by the disposition of the collateralized property (exhibit 8).

The maximum loan amount is 10 million Japanese yen (JPY). As of May 2016, the interest rate is 0.89 percent for improvement work to enhance earthquake resiliency and 1.09 percent for other work associated with elderly accessibility.

Exhibit 8

Exceptional Repayment Schedule for Elderlies



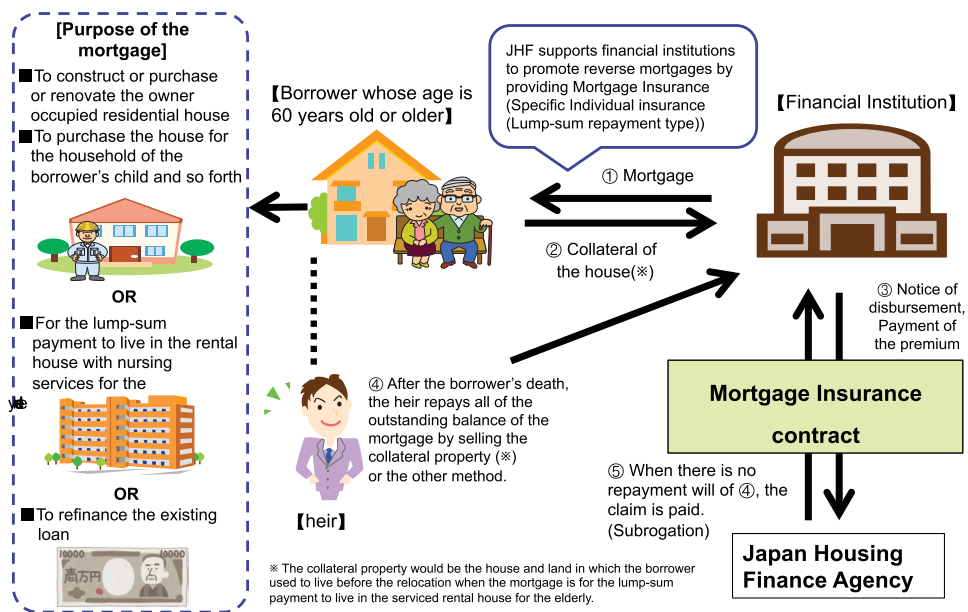
Insurance Program

JHF provides mortgage insurance to private financial institutions, just as FHA does in the United States. Under this program, the lender originates special payment term loans similar to the reverse mortgage, wherein the borrower repays the outstanding balance at his or her death. The eligible borrower is age 60 or older, constructs or purchases an owner-occupied house or borrows a one-time payment for the transfer to rental houses with nursing services for elderly residents, among others (exhibit 9).

The maximum loan-to-value ratio was raised from 50 to 60 percent in FY 2016.

Exhibit 9

Scheme of JHF Reverse Mortgage, With Mortgage Insurance



JHF = Japan Housing Finance Agency.

Use of Proceeds

From the perspective of enriching the lives of the elderly population, the use of proceeds of the reverse mortgage should be expanded to the daily expenditures as was advocated in the Ministry of Land, Infrastructure, Transport and Tourism (MLIT) Roundtable to activate an existing house transaction. Reverse mortgage products sponsored by JHF are related to the purchase or improvement of houses and are not expanded to daily expenditures as of today, and they require monthly payment of interest, which is deferred until the death of the borrower as with the case of HECM. Expansion of the program to have more similarity with HECM is subject to policy discussion if such a program should be provided by the public sector.

Challenges To Expand the Reverse Mortgage Market in Japan

Expanding the reverse mortgage market in Japan pose several challenges, some of which are intrinsic to the product and others that are unique to Japan.

Intrinsic Factors

Intrinsic factors that adversely affect the development of the reverse mortgage market in general are longevity risk, property value risk, and interest rate risk. In this section, we analyze these factors, mainly focusing on the differences between Japan and the United States.

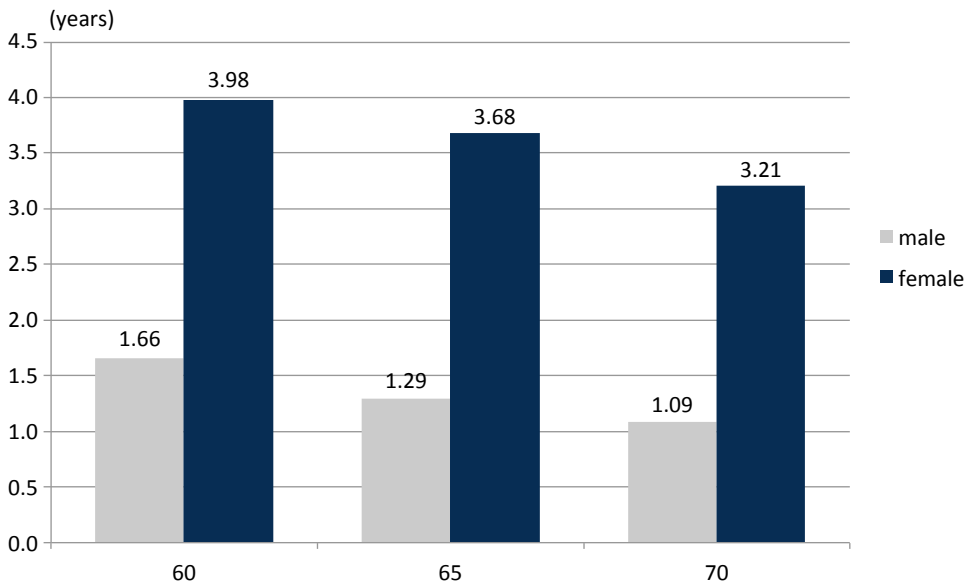
Longevity Risk

The average life expectancy of the elderly population in Japan is longer than that in the United States. Even after the husband dies, the wife will remain in the house until she dies, and the lender of the reverse mortgage will have to wait to possess the property meanwhile. At age 60, the difference of life expectancy between Japan and the United States is almost 4 years for females (exhibit 10).

If the average annual expenditure for elderly homeowners were 25,000 USD equivalent, the difference of the amount drawn for the annuity plan under the reverse mortgage would amount 100,000 (25,000 multiplied by 4) USD equivalent.

Exhibit 10

Difference of Life Expectancy Between Japan and United States at Selected Ages, as of 2014



Sources: CDC (2016: 33); Government of Japan, Ministry of Health, Labour, and Welfare (2014)

Property Value Risk

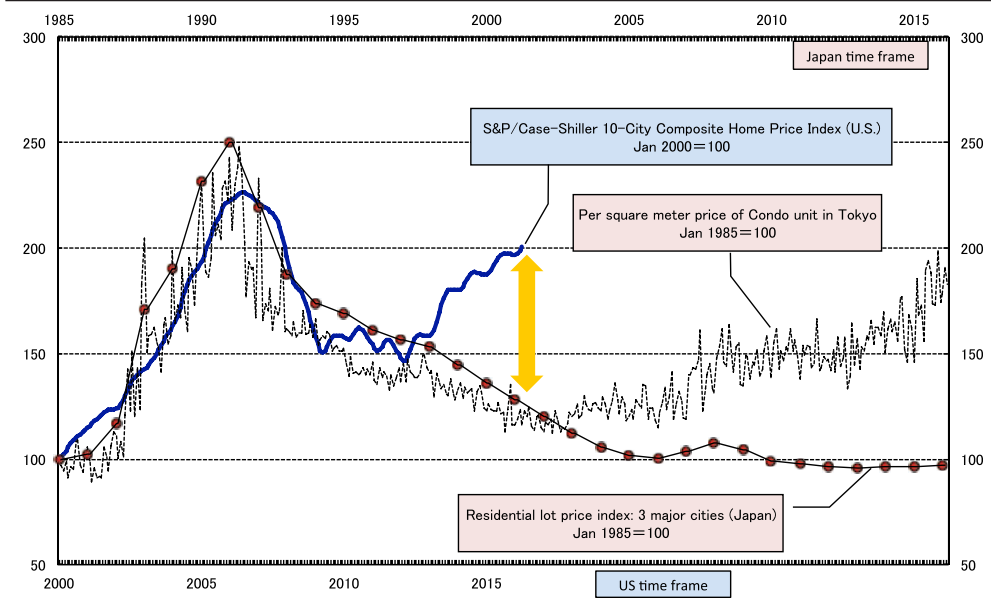
Japan experienced a continuous decline of property prices since the collapse of the asset bubble in the early 1990s. Property prices temporarily recovered in the Tokyo Metropolitan Area during the “mini-bubble” in the middle of the 2000s, but they declined again after the “Lehman Shock” in 2008. Prices started to pick up after the extraordinary monetary accommodation by the Bank of Japan since April 2013, but pessimistic views still remain on the property prices in the future, based on the survey by the Bank of Japan (exhibit 11).

Reverse mortgage markets have developed in the United Kingdom, Australia, and Canada without public support; house prices in those countries have continued to rise. In the United States, where the reverse mortgage market developed with public support, the number of endorsements declined as house prices declined after the collapse of the U.S. housing bubble.

In Japan, as stated previously, elderly people have a longer life expectancy than do elderly U.S. citizens. Borrowers with longer life expectancies getting identical payouts either up front or over time will have larger balances due at death than would be the case for borrowers with a shorter life expectancy. Therefore, the Japanese lender will be exposed to a larger outstanding balance of a reverse mortgage than would the lender in a country where life expectancies are shorter. If house price performance is worse than anticipated, the additional time would allow the value of the collateral to fall short by even more. So, the longer life expectancy could add risk to reverse mortgages, not only because of a higher loan balance but also because of a longer period for the real estate market to underperform as well.

Exhibit 11

Property Prices in Japan and the United States



S&P = Standard and Poor's. US = United States.

Sources: Standard and Poor's (2016); Real Estate Economic Institute Co., Ltd. (2016); MLIT (2016)

Interest Rate Risk

If the lender extends a reverse mortgage with a fixed interest rate, the lender may be exposed to future interest rate risk by the fluctuation of market rates. Even in the United States, where the vast majority of forward mortgages are 30-year fixed, an adjustable rate is more popular for reverse mortgages. If the reverse mortgage is extended with an adjustable rate, the lender would be immune to future interest rate risk, but the risk is transferred to the borrower. The available amount of a reverse mortgage may be reduced due to the increase in accrued interest, depending on the design of the program.

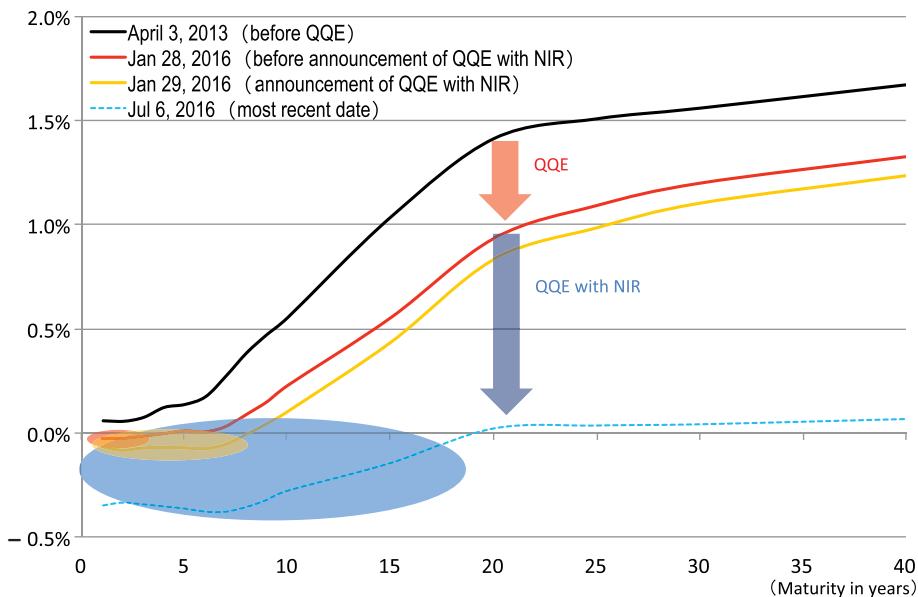
In Japan, the interest rate is extremely low in all parts of the yield curve for the Japanese Government Bond (JGB). The yields of JGB with the remaining maturity up to 20 years were in negative territory as of July 2016 (exhibit 12).

In Japan, in July 2016, a 35-year fixed-rate mortgage was available for as low as 0.93 percent. Nonetheless, an adjustable-rate mortgage (ARM), including a hybrid ARM, is more popular in Japan because the extremely low interest-rate environment has persisted so long, so interest rate risk is not well perceived in Japan.

The ratio of outstanding public debt to gross domestic product in Japan, however, is 248 percent as of 2015, which is the worst among the Group of Seven member countries. At this moment, the

Exhibit 12

JGB Yield Curve



JGB = Japanese Government Bond. NIR = negative interest rate. QQE = quantitative and qualitative monetary easing. Source: Government of Japan, Ministry of Finance (2016)

interest rate is very low because of the “Quantitative and Qualitative Monetary Easing with a Negative Interest Rate” implemented by the Bank of Japan, but after the normalization of the monetary policy, a risk may exist for the interest rate to rise abruptly.

For the reverse mortgage market in Japan, which is in the development stage, a sudden rise of the interest rate may negatively affect the borrower. If high interest rates give reverse mortgages a negative reputation among borrowers, they could create a strong headwind against the entry of new customers.

Factors Unique to Japan

In addition to the intrinsic factors that adversely affect the development of the reverse mortgage market in general, several factors unique to Japan must be considered: the existing home market, social securities, and others.

Existing Home Market

The number of sales of existing homes in Japan is much smaller compared with the number of new housing starts, which is different from other advanced economies, including those of the United States and the United Kingdom. The number of new housing starts in Japan is around 1 million per year, which is almost the same as in the United States. In the United States, however, figures for existing home sales is around 5 million while that in Japan is less than one-half million, even by the higher estimates.⁴

Japan has 8.2 million vacant houses, which is 13.5 percent of the total housing stock as of 2013. Because of such a high vacancy rate, some in Japan argue that existing home sales transactions should be more of a policy focus than new housing supply. The sales price of existing houses compared with new houses is much lower in Japan than in the United States, partly reflecting less renovation work by homeowners and lack of a method to value such renovation work with third party inspections. In addition to the overall property price movement, this difference in the value of the property with aging of the structure also negatively affects the development of the reverse mortgage market in Japan. MLIT has been launching policy tools to stimulate existing home sales transactions and has closely monitored the impact on the existing home market.

Having said that, Japan must maintain a certain level of new housing construction to replace housing stock that has less earthquake resilience. At the same time, constraints on new housing supply in the United Kingdom are one of the causes of affordability problem for first-time homebuyers. The lack of supply of new houses is good for the existing homeowners in terms of maintaining property value, but it is usually elderly generations that enjoy the benefit of such a low housing supply. The United Kingdom government is expanding LISA for first-time homebuyers in 2017 with taxpayers' money.

⁴ MLIT estimates the figure is much smaller (less than 200,000).

Social Security System

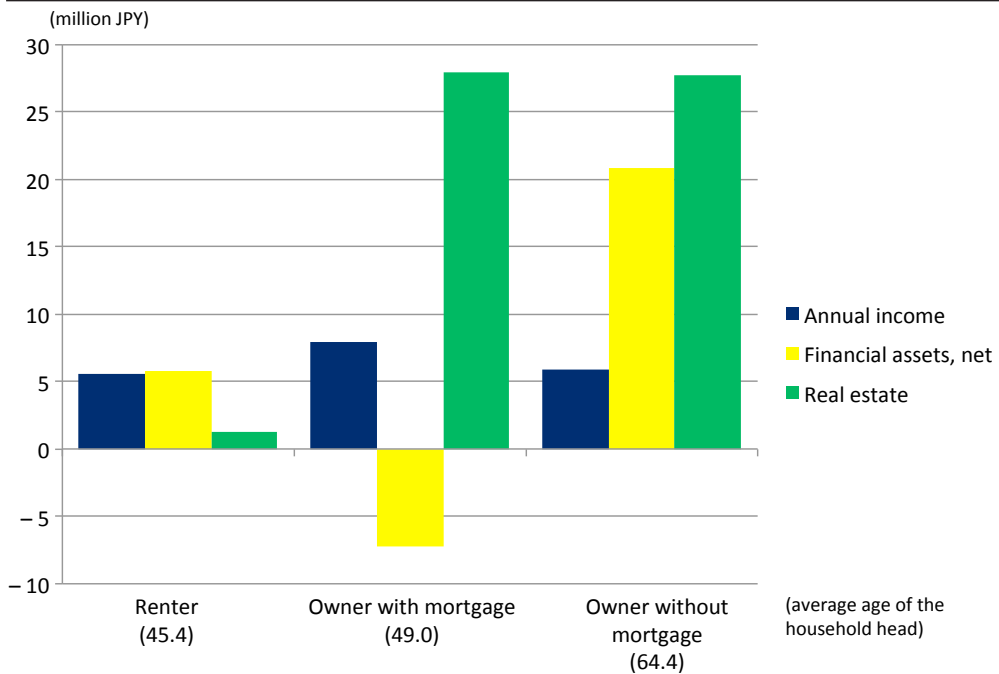
Because many employees in Japan receive lump-sum retirement benefits when they retire and also receive pensions periodically, retirees have had less incentive to borrow additional money for their daily expenditures.

As the demand for fiscal consolidation strengthens, some reform of the public pension system would be in the future, and the reverse mortgage may attract some attention to supplement pension payments; however, it may not be easy for the private sector alone to develop a reverse mortgage market in Japan, given the headwinds mentioned previously. If some public interventions were proposed, additional discussion would occur regarding the allocation of social benefit from the perspective of equity. Generally speaking, owners are better off than renters (exhibit 13).

Many elderly homeowners have already paid off their mortgage obligations and they have, on average, more than 20 million JPY in net financial assets and 25 million JPY in real estate value. They also receive pension annuity payments. Younger renters, on the other hand, have less of all assets listed in exhibit 13. Giving incentives to affluent elderly owners with public assistance may instigate political opposition.

Exhibit 13

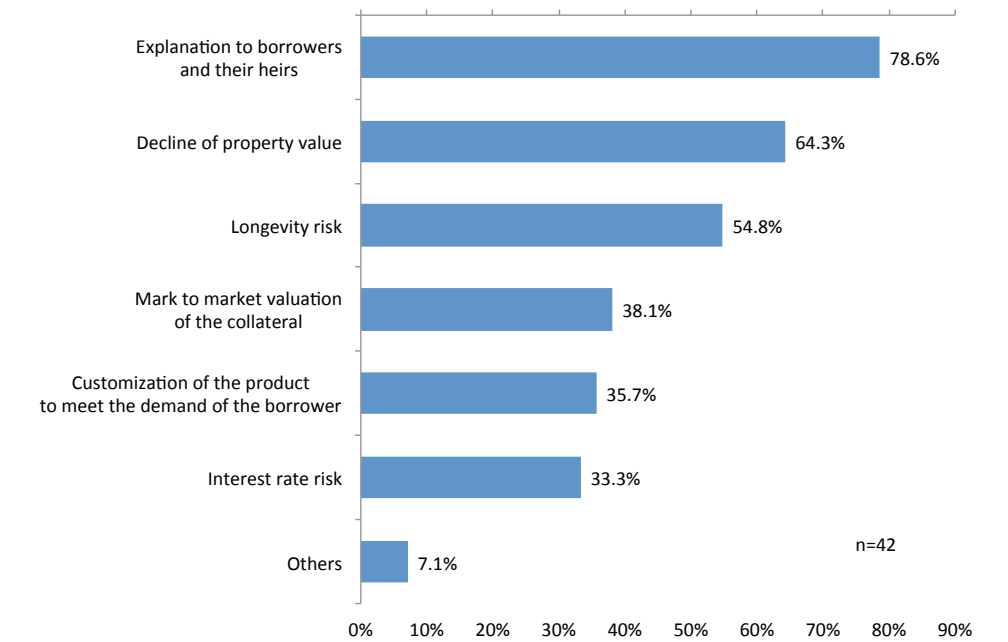
Average Income and Assets by Owner and Renters



JPY = Japanese yen.
Source: MIAC (2014)

Exhibit 14

Challenges To Handling the Reverse Mortgage in Japan



Source: JHF (2016)

Challenges Identified by Lenders

Based on the survey conducted by JHF in February 2016, 42 financial institutions answered the question regarding the challenges of handling reverse mortgages.

As is shown in exhibit 14, the explanation to borrowers and their heirs is the most challenging factor for originating the reverse mortgage, followed by the decline of property value, longevity risk, mark-to-market valuation of the collateral, customization of the product to meet the demand of the borrower, interest rate risk, and others. These factors coincide with the challenges mentioned previously, but the fact that the explanation to borrowers and their heirs was the number one challenge demonstrates the difficulty of consumer protection in an aging society.

Securitization of Reverse Mortgages

In the United States, the outstanding balance of HMBS guaranteed by Ginnie Mae is 54 billion USD as of June 2016. In Japan, the outstanding balance of MBS guaranteed by JHF is 12 trillion JPY and that of private-label securities is 8 trillion JPY. The combined balance is 20 trillion JPY, but pools are all backed by forward mortgages in Japan and, as of today, a product similar to HMBS does not exist.

If the reverse mortgage market were to expand in Japan in the future, the market would need securitized products similar to HMBS as funding tools for the lender to hedge the interest rate risk; however, because HMBS would be an entirely new product, the strategy to place such products would need to be deliberated, especially regarding dialogue with the investor communities.

Conclusion

Reverse mortgage markets exist in several countries to supplement the daily expenditures of elderly homeowners, but, in most of those countries, the property value has continually increased and markets are more active for existing home sales transactions, which are important factors for the development of the reverse mortgage market. The United States and South Korea have strong intervention by the public sector.

The reverse mortgage program in Japan was first introduced in 1981 by a municipal government, Musashino City. The market for reverse mortgage products provided by private financial institutions is expanding as well. Reverse mortgage products provided by JHF have improved gradually, but the use of the proceeds is limited as of today.

It remains for policy discussion whether there will be more public intervention for the development of a reverse mortgage market in Japan, where social and economic conditions that are closely related to the market are so different from conditions in other countries.

Acknowledgments

The authors thank Dr. Alven Lam and Ginnie Mae for kindly inviting us to contribute this article. The Japan Housing Finance Agency (JHF) concluded a memorandum of understanding with Ginnie Mae in January 2014 and held the first United States-Japan Housing Finance and Capital Markets Roundtable in Washington, DC, in August 2015. The content of this article was presented at the second United States-Japan Roundtable in October 2016. The views and opinions expressed in this article are those of the authors and do not represent those of JHF.

Authors

Masahiro Kobayashi is the Director General of the Research and Survey Department and the Director General for International Affairs of the Corporate Strategy Department at the Japan Housing Finance Agency.

Shoichiro Konishi is a senior economist for the Global Markets Research and Survey Department and is the Director for International Affairs of the Corporate Strategy Department at the Japan Housing Finance Agency.

Toshihiko Takeishi is the Chief Deputy Director of the Research and Survey Department at the Japan Housing Finance Agency.

References

Australian Housing and Urban Research Institute (AHURI). 2010. *Reverse Mortgages and Older People: Growth Factors and Implications for Retirement Decisions*. Melbourne, Australia: Australian Housing and Urban Research Institute.

Australian Securities and Investments Commission (ASIC). 2016. "ASIC's MONEY SMART: Reverse Mortgages." <https://www.moneysmart.gov.au/superannuation-and-retirement/income-sources-in-retirement/home-equity-release/reverse-mortgages>.

Bank for International Settlements (BIS). 2016. "Residential Property Prices: Selected Series (Nominal and Real)." http://www.bis.org/statistics/pp_selected.htm.

European Commission. 2014. *Population Ageing in Europe: Facts, Implications and Policies*. Brussels, Belgium: European Commission, Directorate-General for Research and Innovation.

———. 2010. *Towards Adequate, Sustainable and Safe European Pension Systems*. Green paper. Brussels, Belgium: European Commission.

Centers for Disease Control and Prevention (CDC). 2016. "Life Expectancy at Selected Ages, by Race, Hispanic Origin, Race for non-Hispanic Population, and Sex: United States, 2014," *National Vital Statistics Reports* 65 (4): Table 7. Atlanta: National Center for Health Statistics, National Vital Statistics System.

Federal Housing Administration (FHA). 2016. *Annual Report to Congress Regarding the Financial Status of the Mutual Mortgage Insurance Fund Fiscal Year 2015*. Washington, DC: U.S. Department of Housing and Urban Development, Federal Housing Administration.

———. 2012. *Total HECM Cases Endorsed for Insurance by Fiscal Year of Endorsement Plus Selected Loan and Borrower Characteristics*. Washington, DC: U.S. Department of Housing and Urban Development, Federal Housing Administration.

Government of Japan, Ministry of Finance. 2016. "Japanese Government Bond, Data, Interest Rate." http://www.mof.go.jp/english/jgbs/reference/interest_rate/index.htm.

Government of Japan, Ministry of Health, Labour and Welfare. 2014. "Life Expectancies at Specified Ages, Abridged Life Tables for Japan 2014." <http://www.mhlw.go.jp/toukei/saikin/hw/life/life14/dl/life14-02.pdf>.

Government of Japan, Ministry of Internal Affairs and Communications (MIAC). 2014. *National Survey of Family Income and Expenditure*. Tokyo, Japan: Statistics Bureau, Ministry of Internal Affairs and Communications.

Government of Japan, Ministry of Land, Infrastructure, Transport and Tourism (MLIT). 2016. *Land Market Value Publication*. Tokyo, Japan: Ministry of Land, Infrastructure, Transport and Tourism.

Hilber, Christian A.L., and Olivier Schöni. 2016. *Housing Policies in the United Kingdom, Switzerland, and the United States: Lessons Learned*. ADBI Working Paper 569. Tokyo, Japan: Asian Development Bank Institute.

Japan Housing Finance Agency (JHF). 2016. *Survey on the Lending Attitudes of Private Financial Institutions*. Tokyo, Japan: Japan Housing Finance Agency.

Korea Housing Finance Corporation (KHFC). 2014. *HF Annual Report 2014*. Seoul, Korea: Korea Housing Finance Corporation.

Real Estate Economic Institute Co., Ltd. 2016. *Market Report on Condominium and Houses for Sale in Tokyo Metropolitan Area* (only in Japanese). Tokyo, Japan: Real Estate Economic Institute.

Senior Australian Equity Release Association of Lenders (SEQUAL) and Deloitte. 2013. *Reverse Mortgage Survey*.

Standard and Poor's. 2016. "S&P/CoreLogic Case-Shiller 10-City Composite Home Price NSA Index." <http://us.spindices.com/indices/real-estate/sp-corelogic-case-shiller-10-city-composite-home-price-nsa-index>.

U.S. Department of Housing and Urban Development (HUD). 2015. *Actuarial Review of the Federal Housing Administration Mutual Mortgage Insurance Fund HECM Loans for Fiscal Year 2015*. Washington, DC: U.S. Department of Housing and Urban Development.