

US-Japan Bi-Lateral Housing Initiative: Kick-off Event

Impact of aging society on housing, finance and
macro-economic situation in Japan

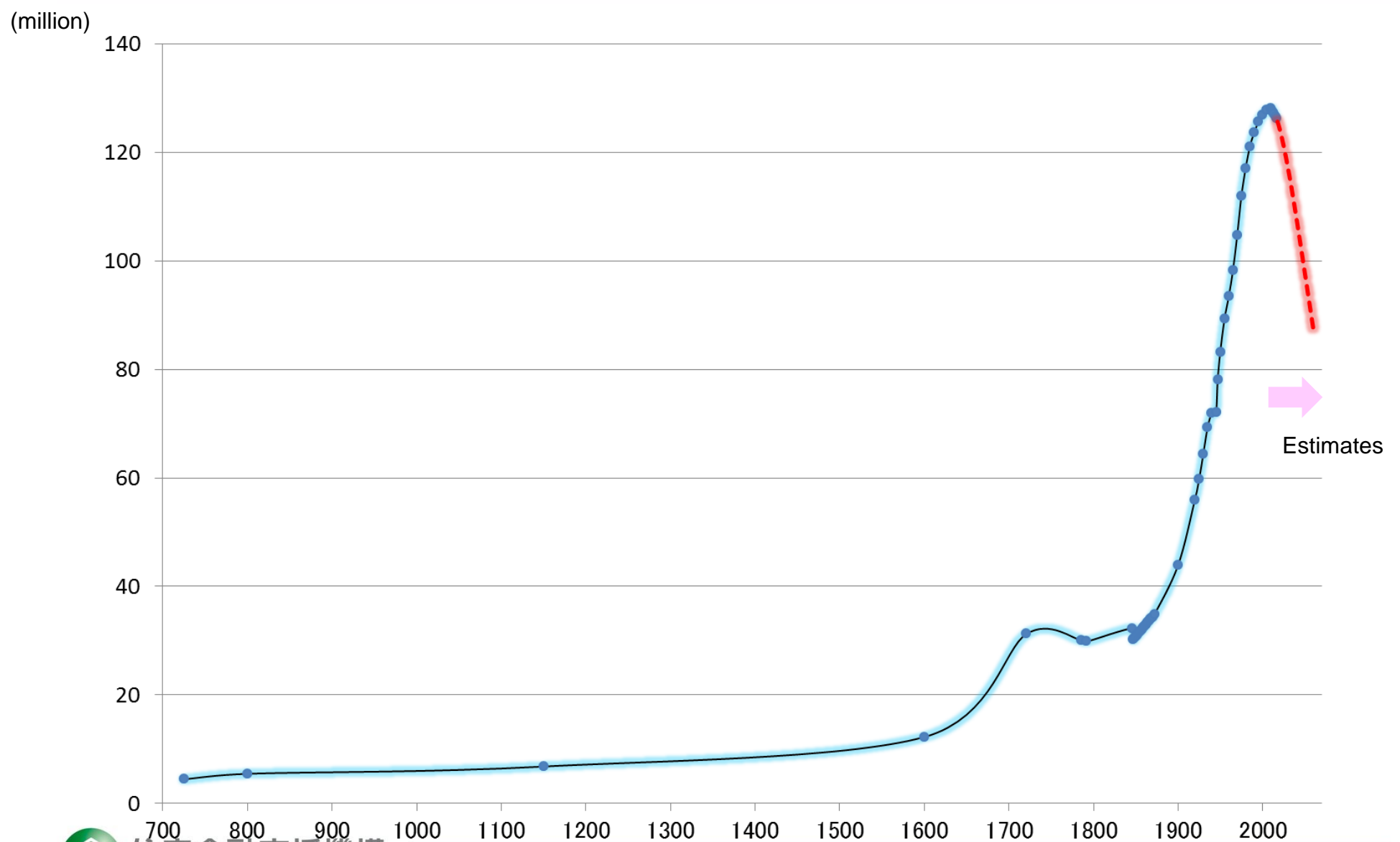
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(旧「住宅金融公庫」)

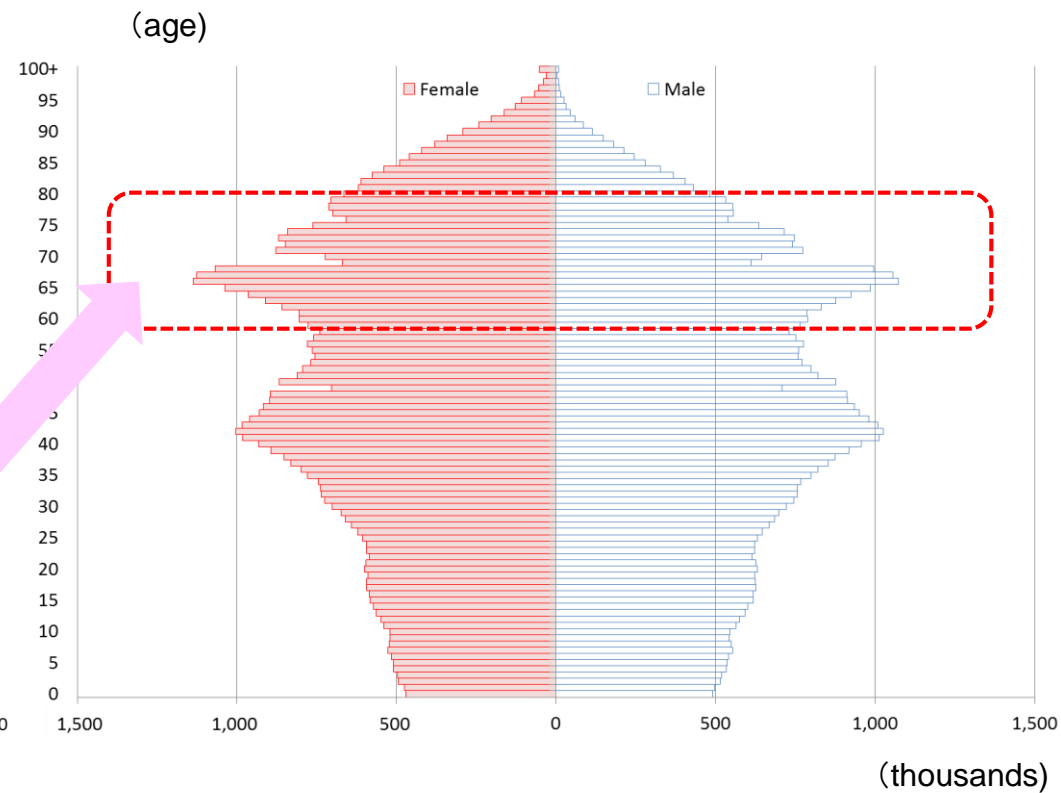
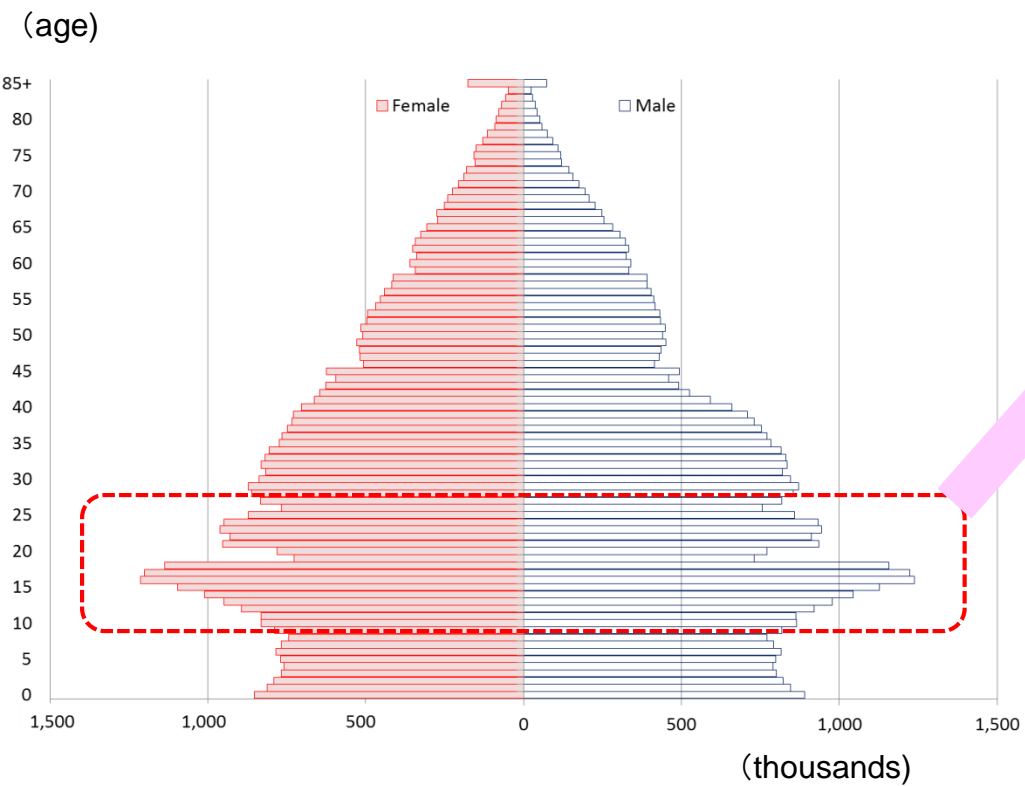
Japanese population



Population pyramid in Japan

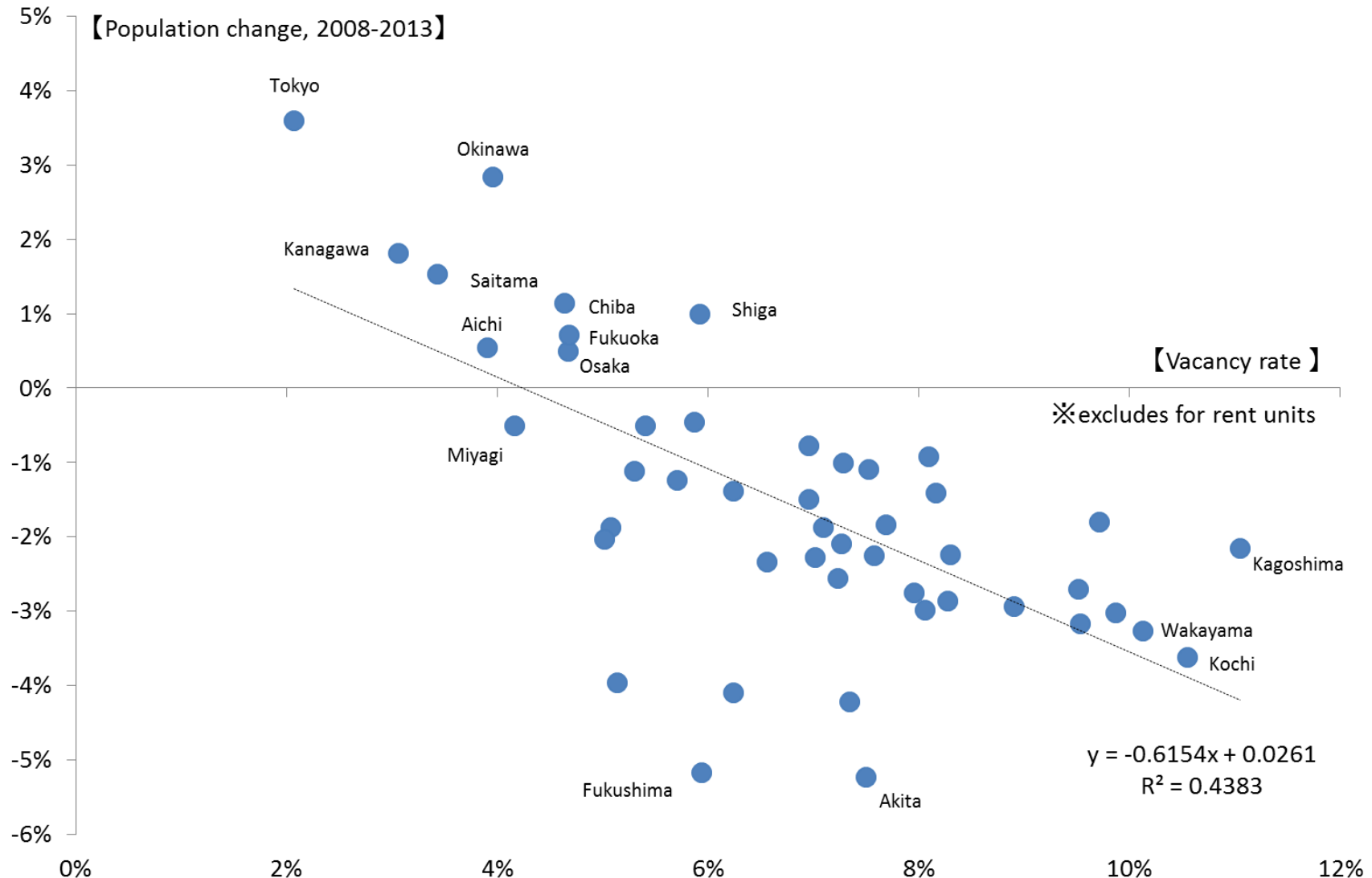
As of 1965

As of 2015



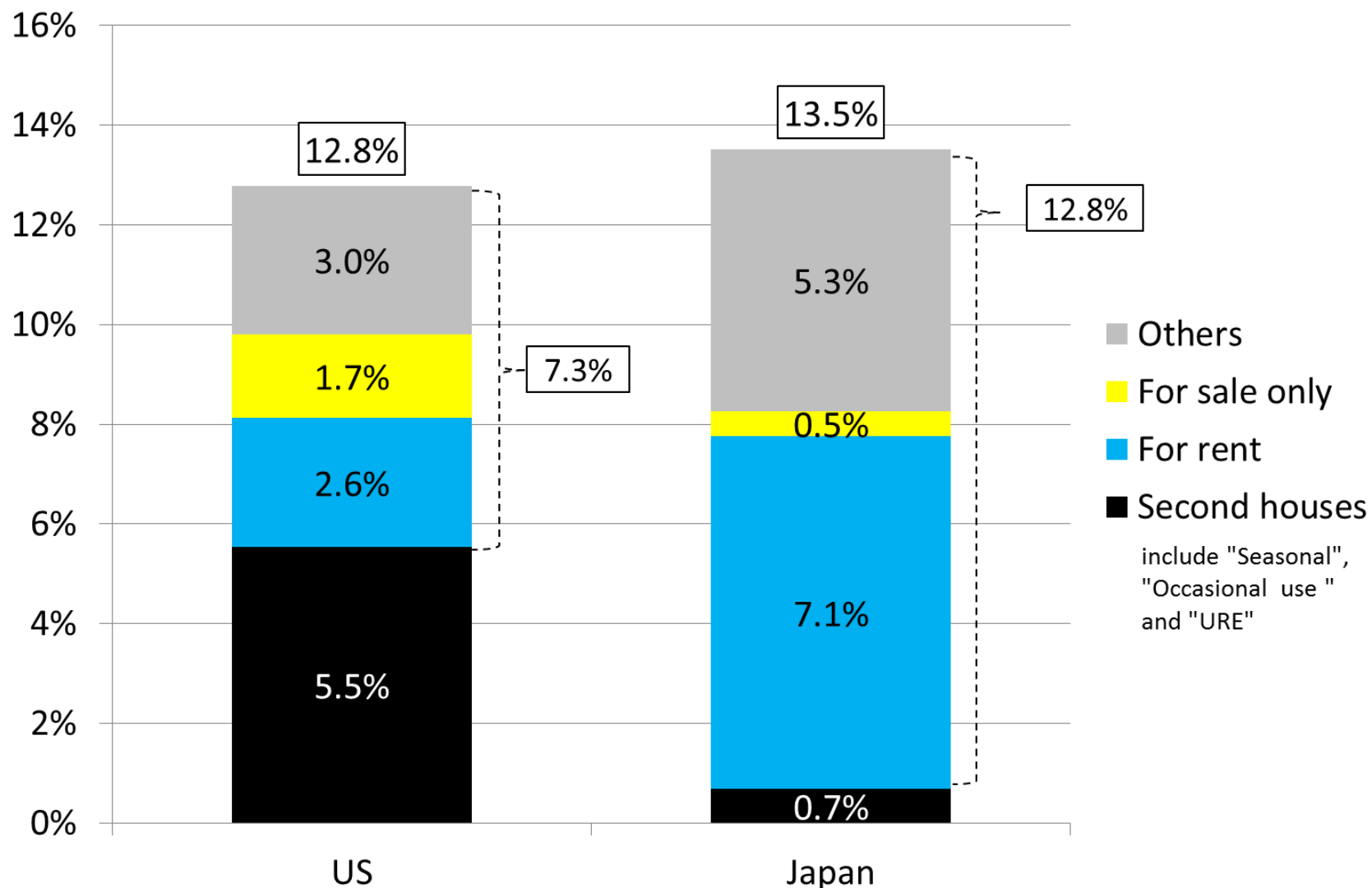
Vacancy rate and population in Japan by region

Vacancy rate is higher in regions with declining population.



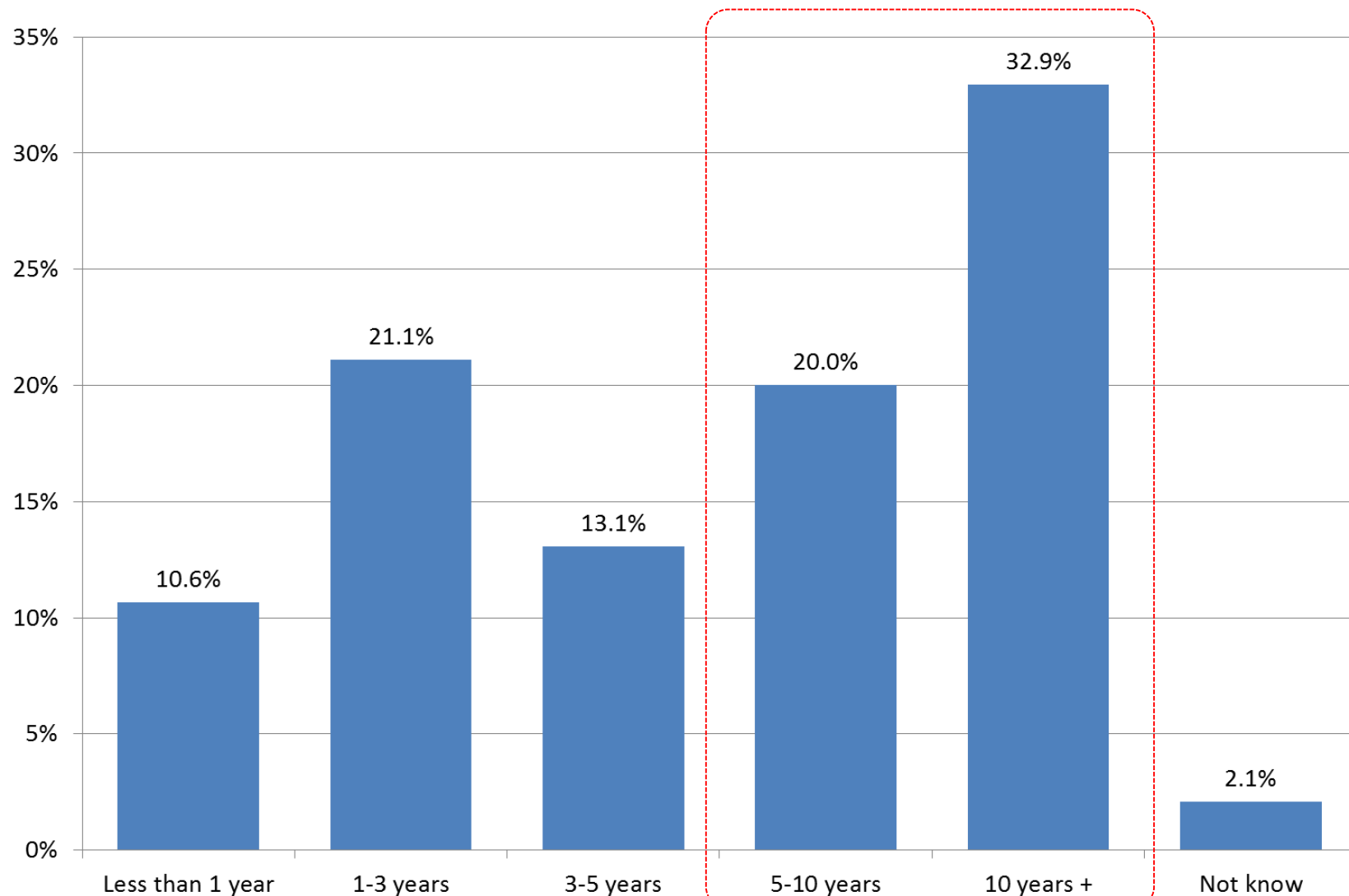
Vacant houses per total housing stock in 2013

There are 8.20 million vacant houses, 13.5% of total housing stock of 60.63 million units in Japan.

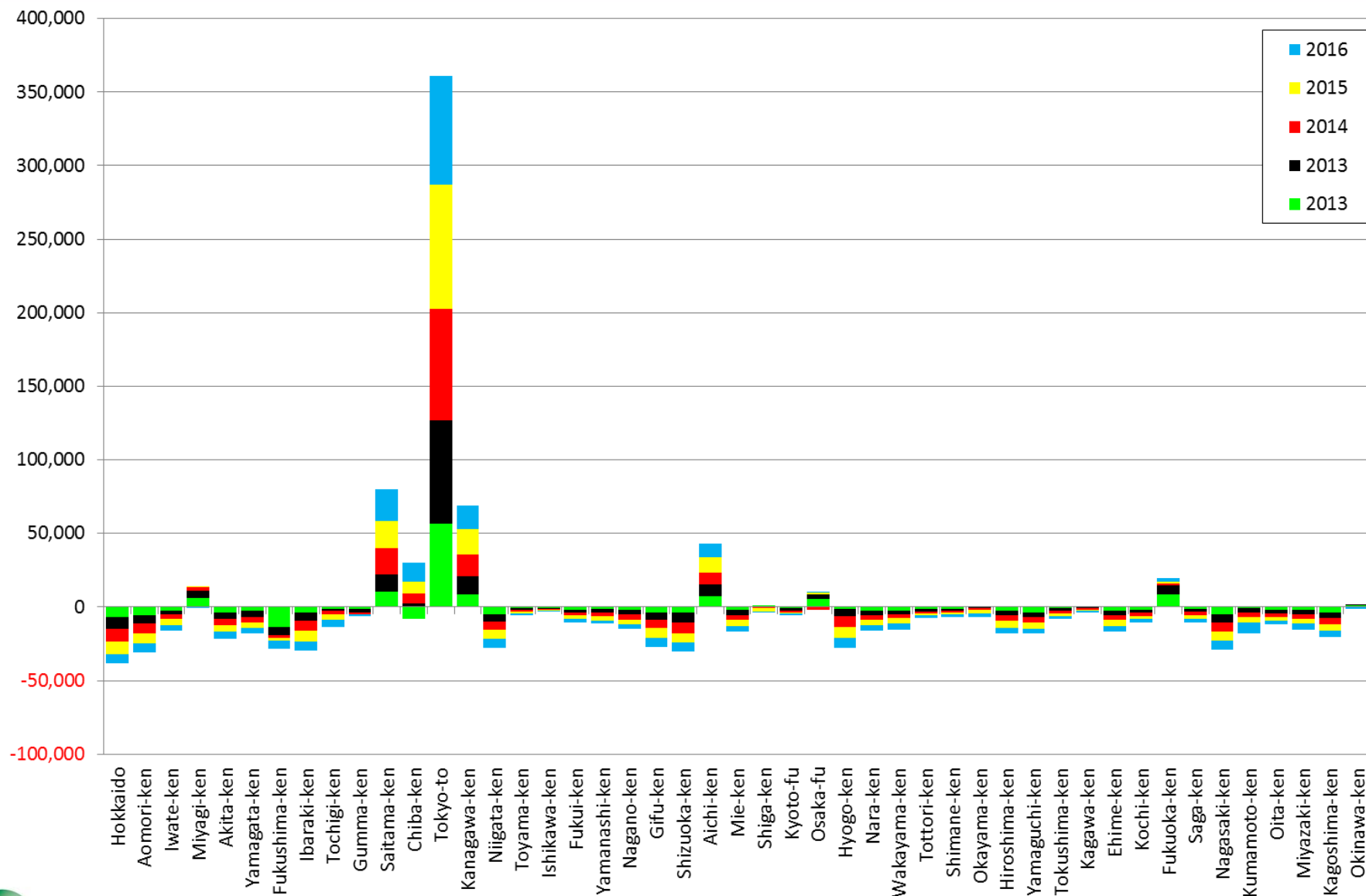


Duration of Vacancy

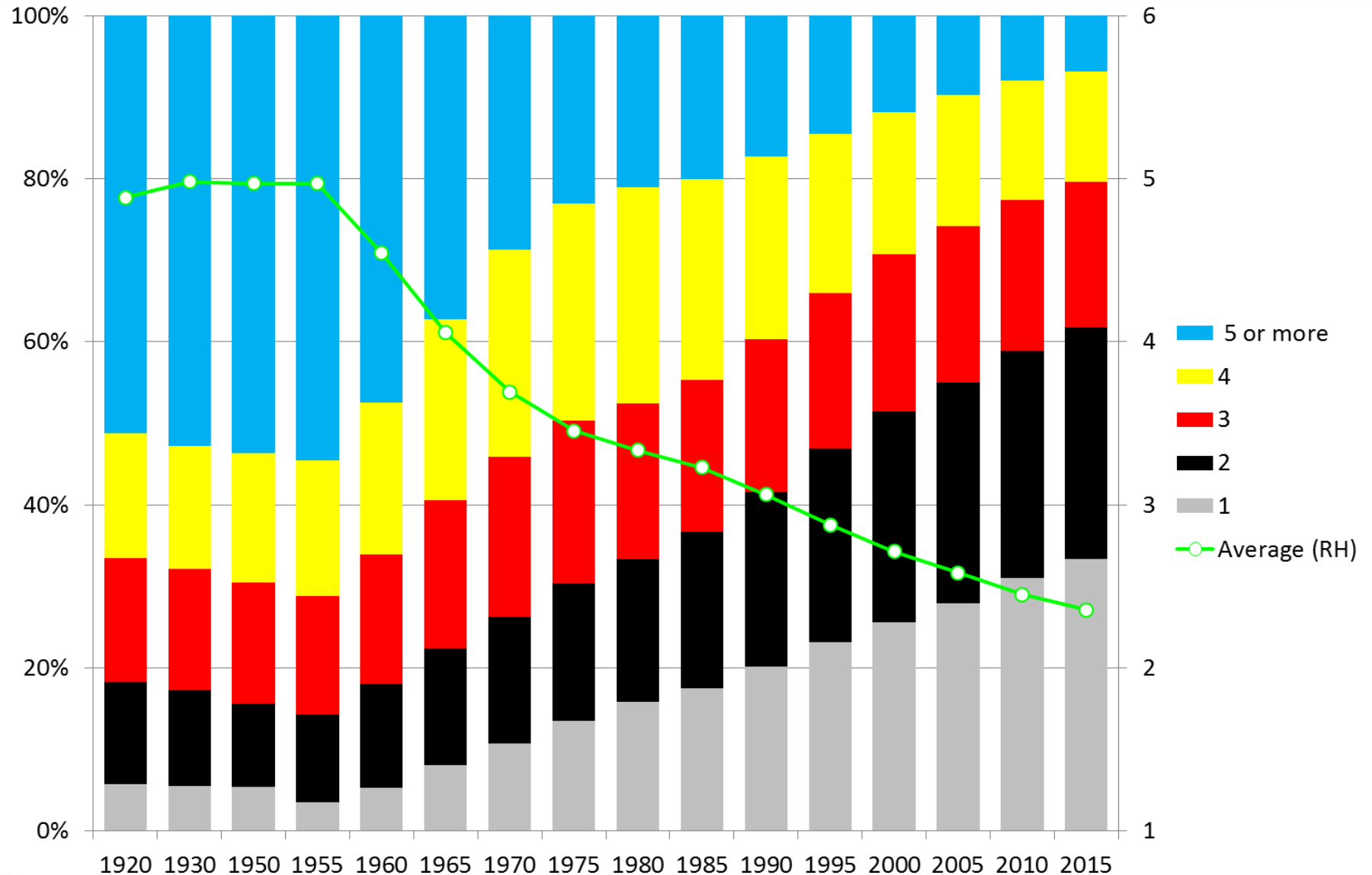
More than half of the vacant units are vacant for more than 5 years.



Net inter-prefecture migration in the past 5 years

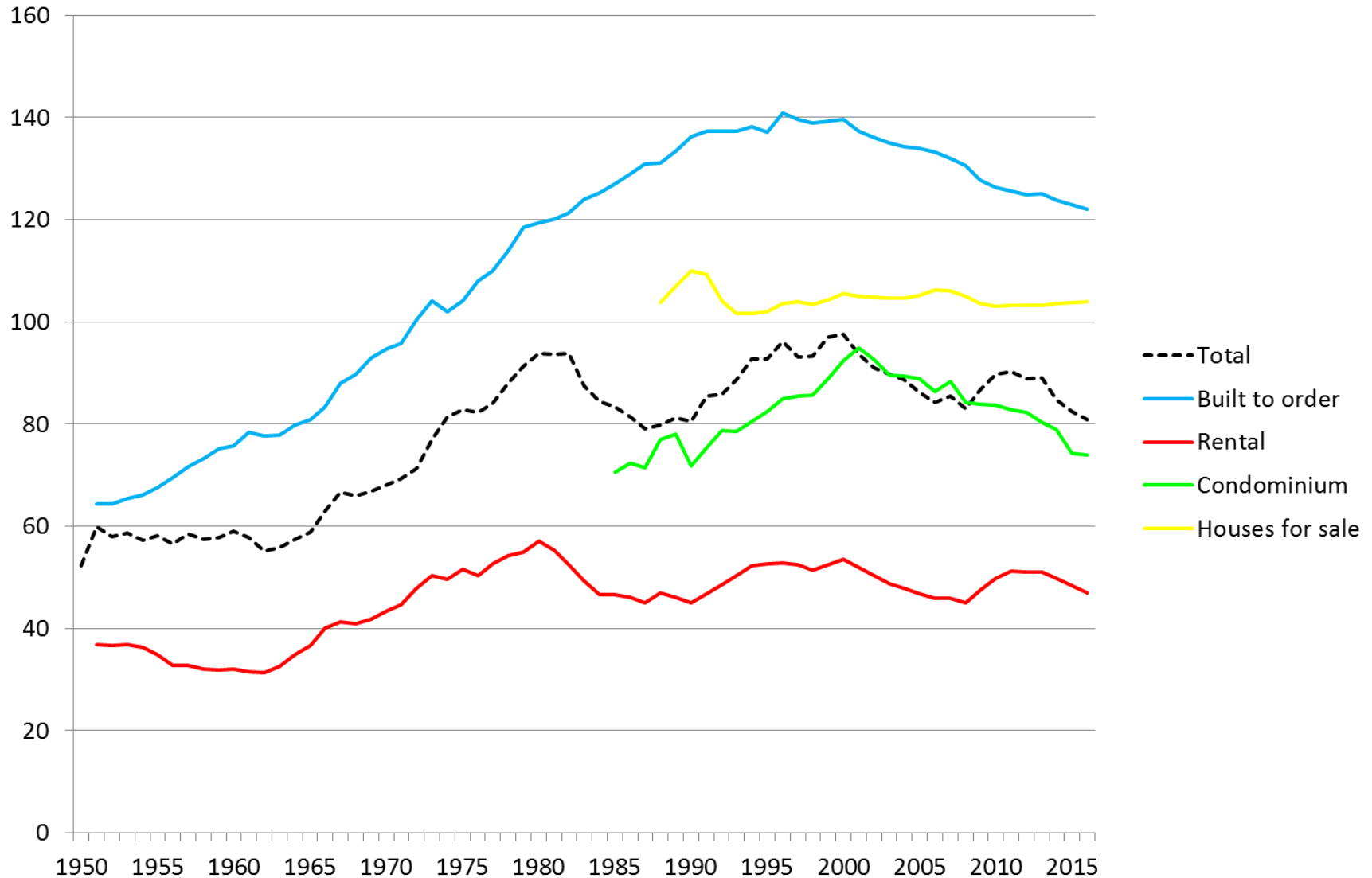


Size of households



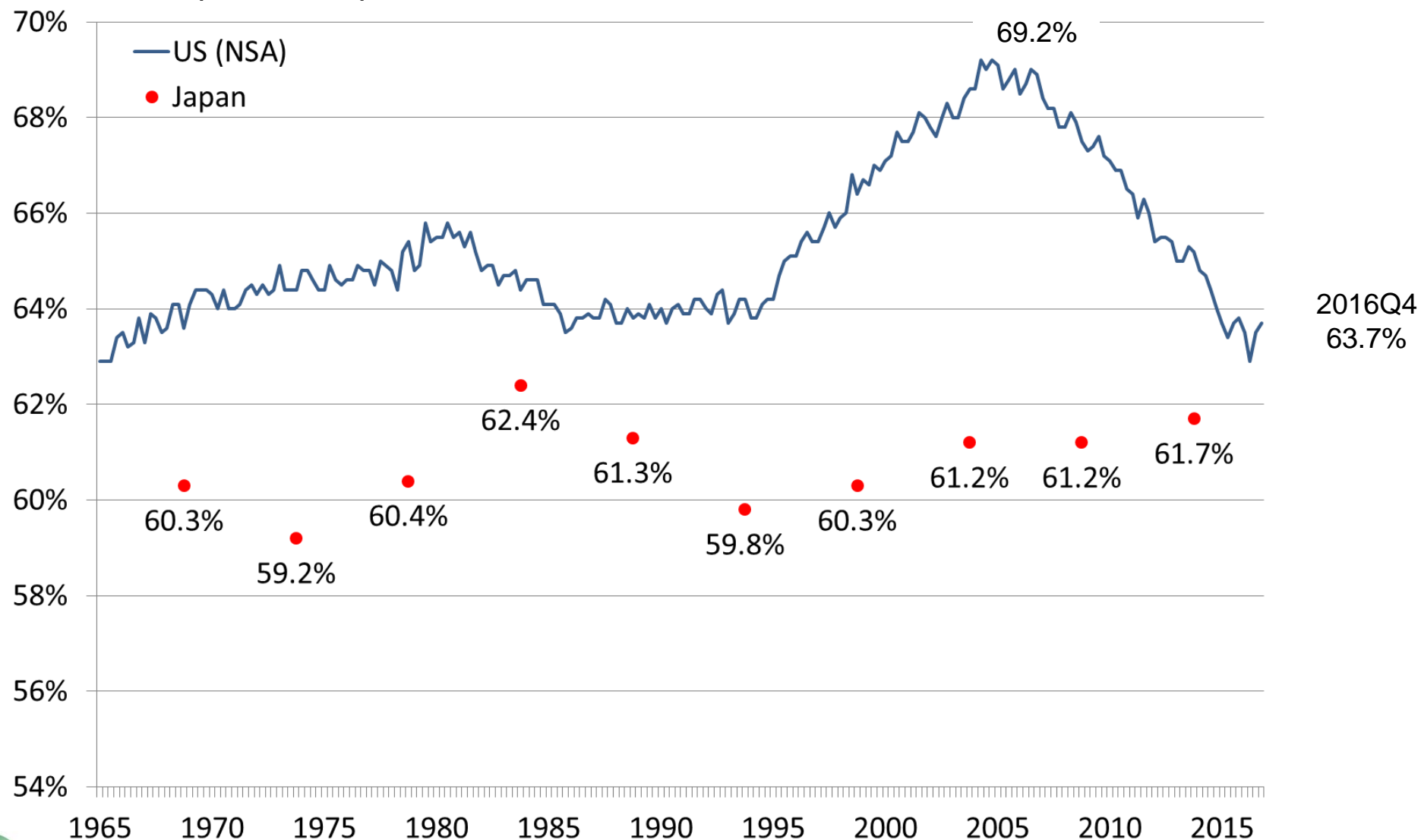
Average size of houses in Japan

(square meter)



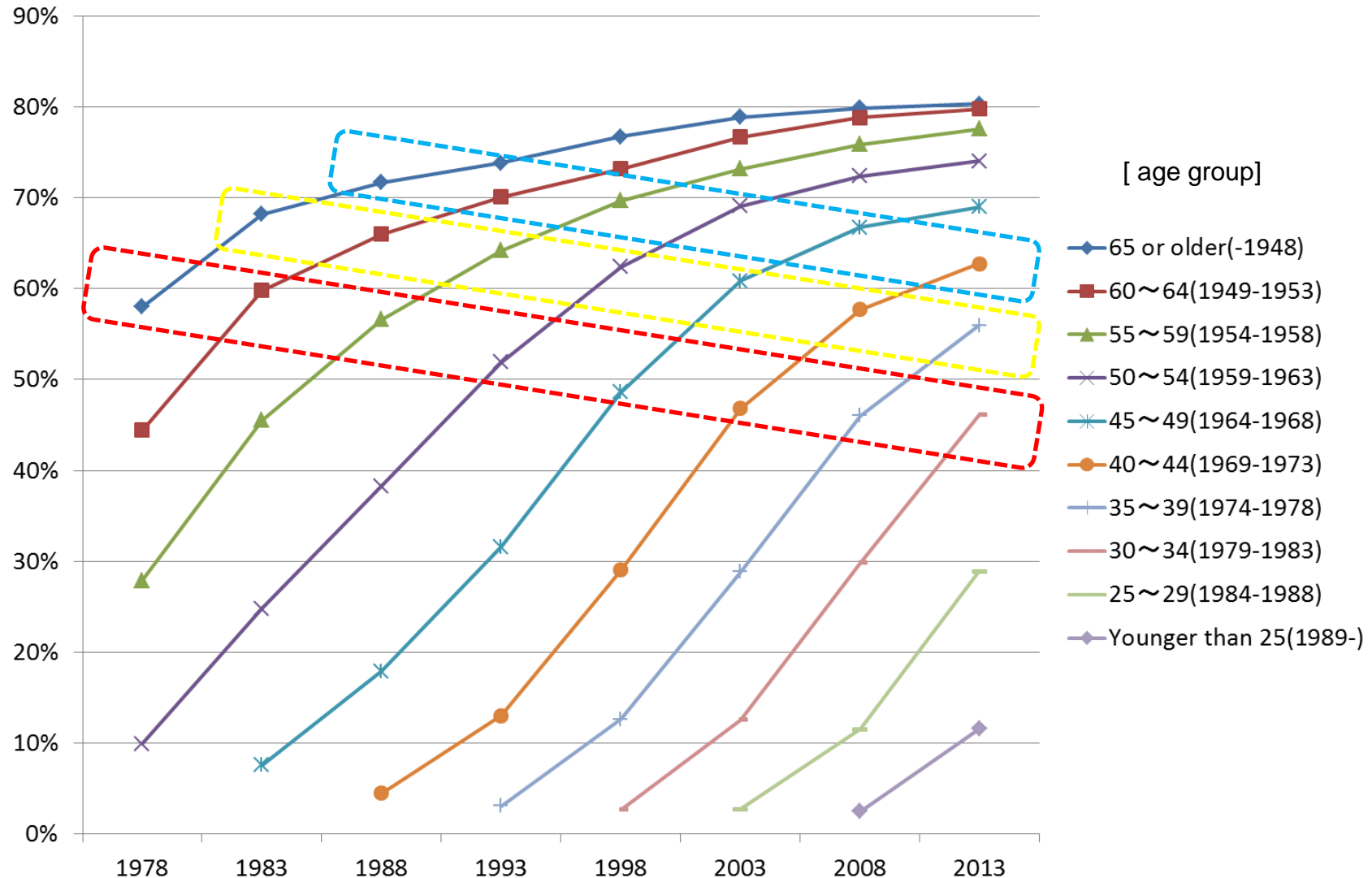
Home ownership rate in Japan and the US

Home ownership rate in Japan is lower than the US, but remained stable.



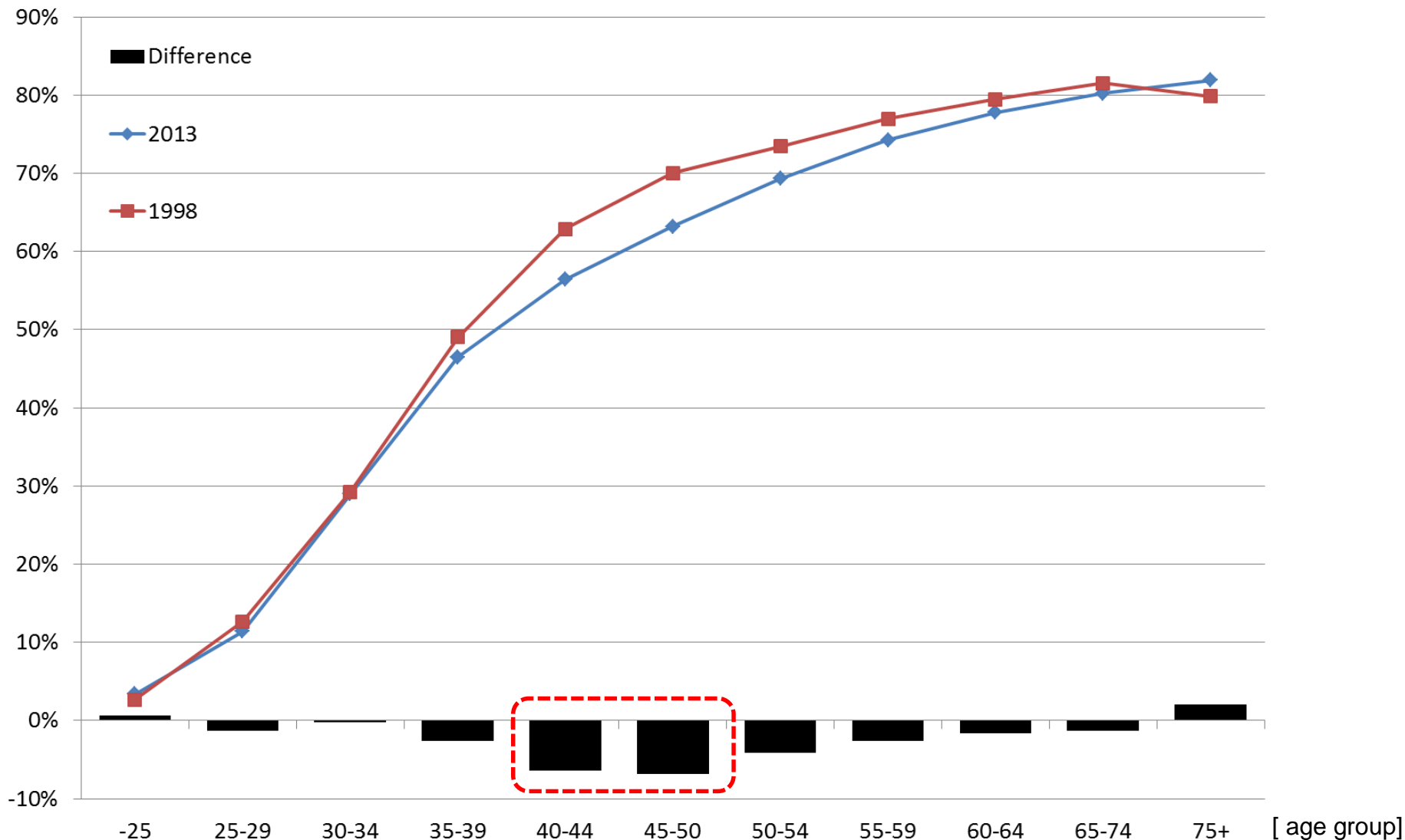
Homeownership rate by age cohort in Japan

Homeownership rate of the same age cohort is slightly declining over years.



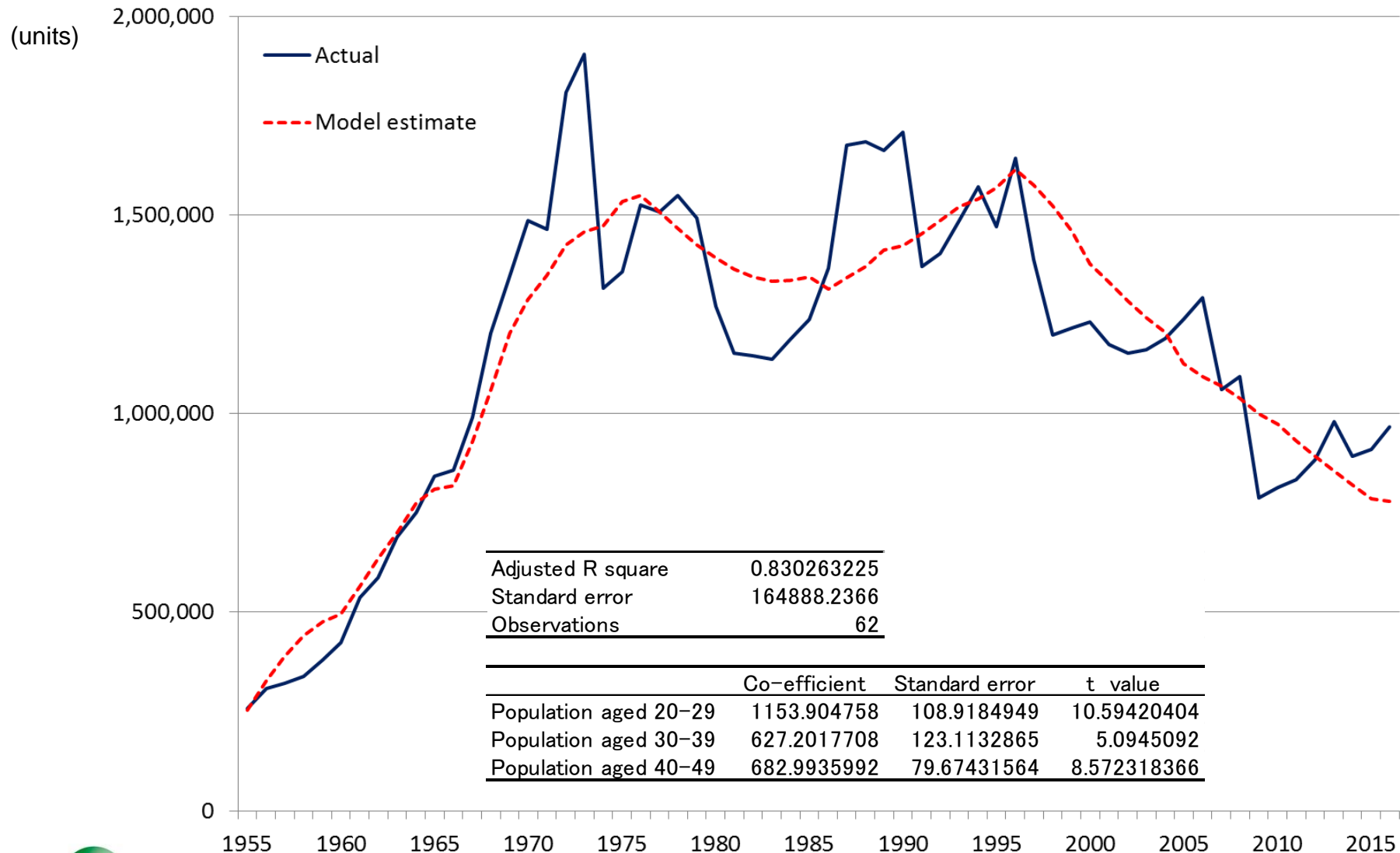
Homeownership rate by age group in Japan

Homeownership rate has declined among many age group, especially among those in 40's.



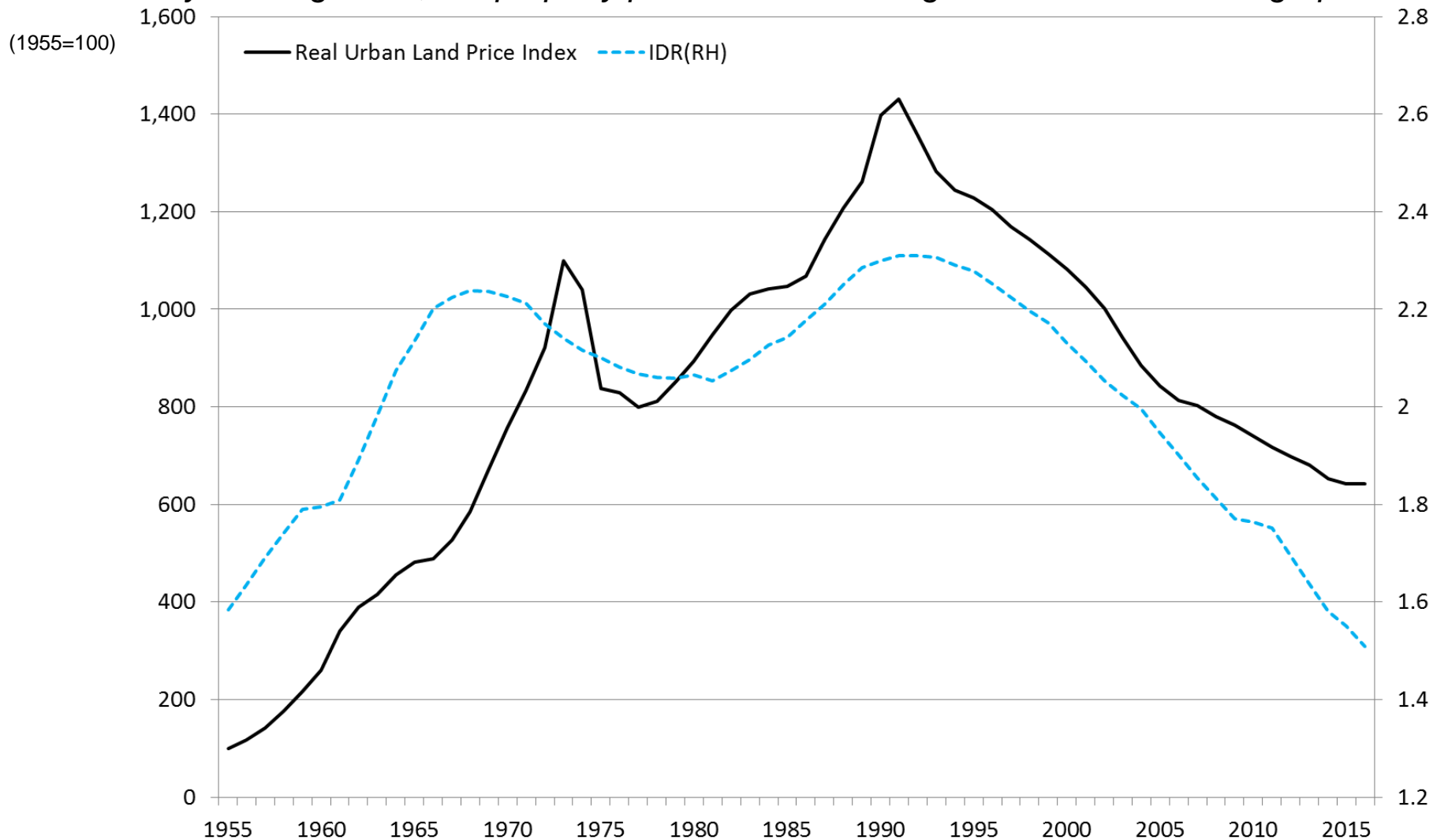
Housing starts and estimate by model based on demography in Japan

Housing starts in Japan has strong correlation with core working age populations.



Real land price and inverse dependency ratio

Not only housing starts, but property price also had strong correlation with demographics in Japan.

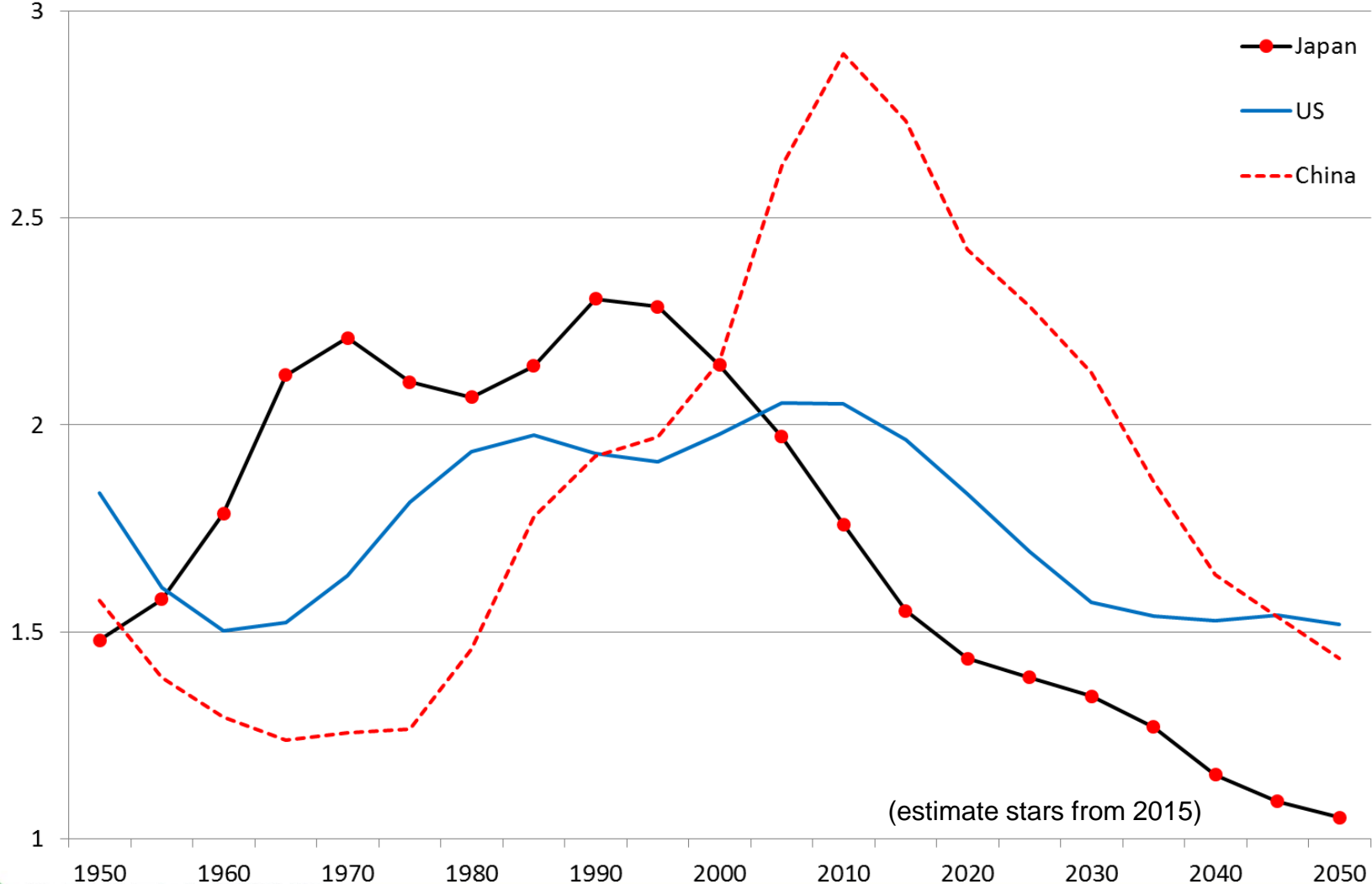


(Note) Real land price is national average of residential land discounted by CPI (All items, less imputed rent).

Strong headwind?

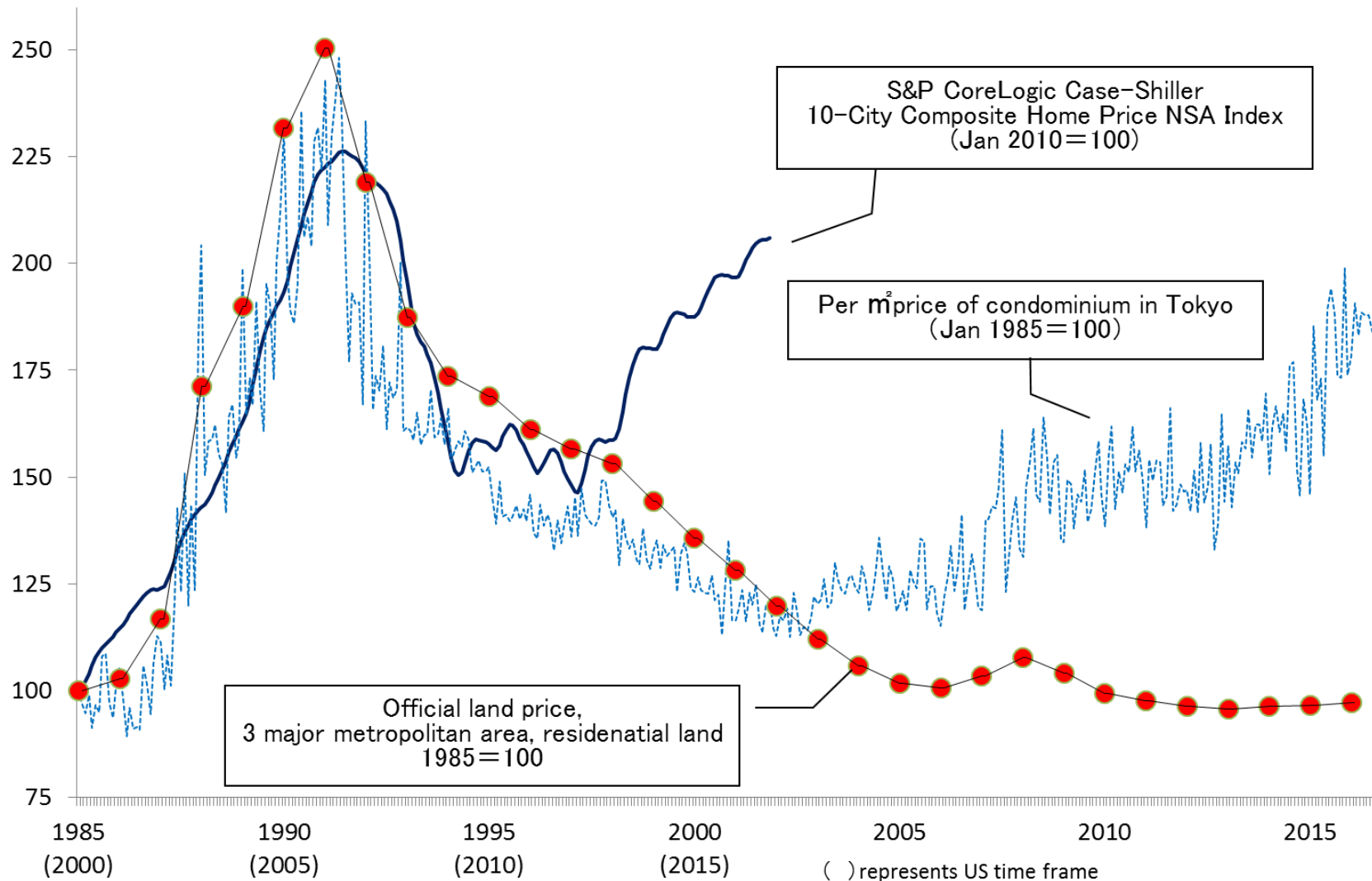
Will demographic trend negatively affect housing markets in the US (and China) as well?

(inverse dependency ratio)



Housing bubble in the US and Japan

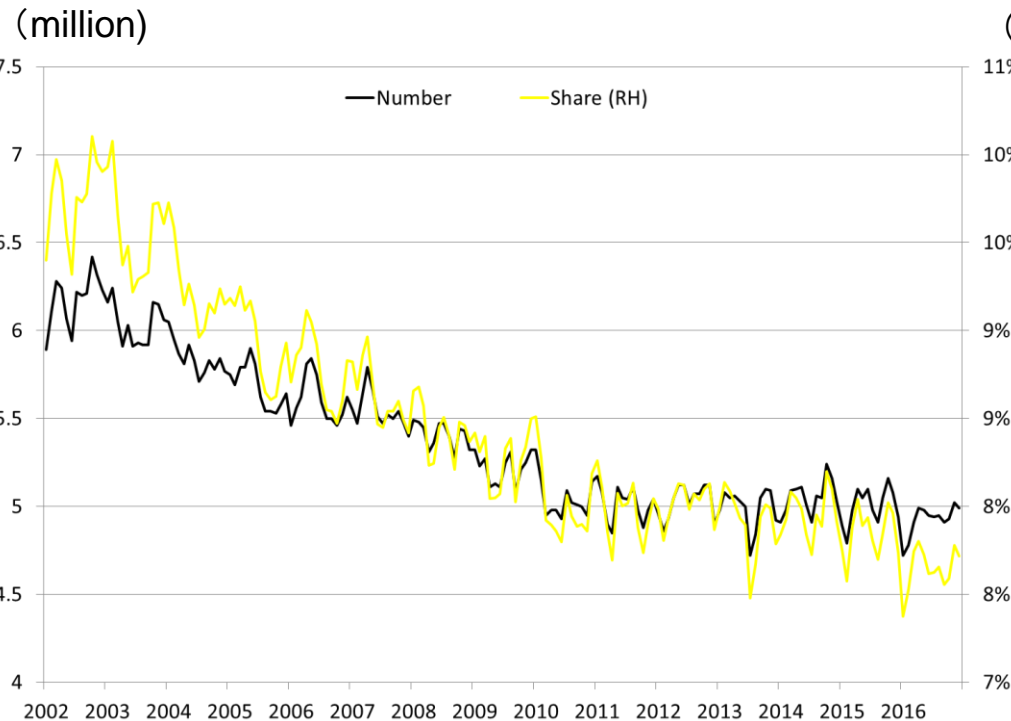
After the collapse of housing bubble, Japan faced persistent decline while US averted it.



Number of employees in construction industry

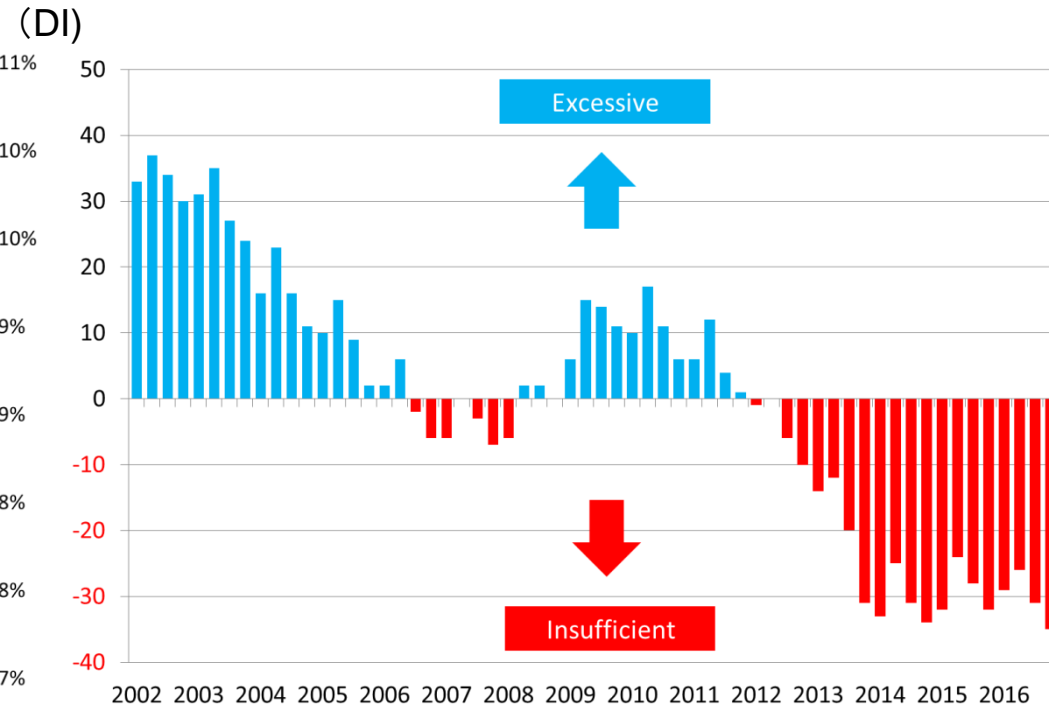
Number of employees in construction industry has been declining, and insufficient construction workers can be a constraint to the industry for some time.

Number of employees in construction industry and its share among all industries



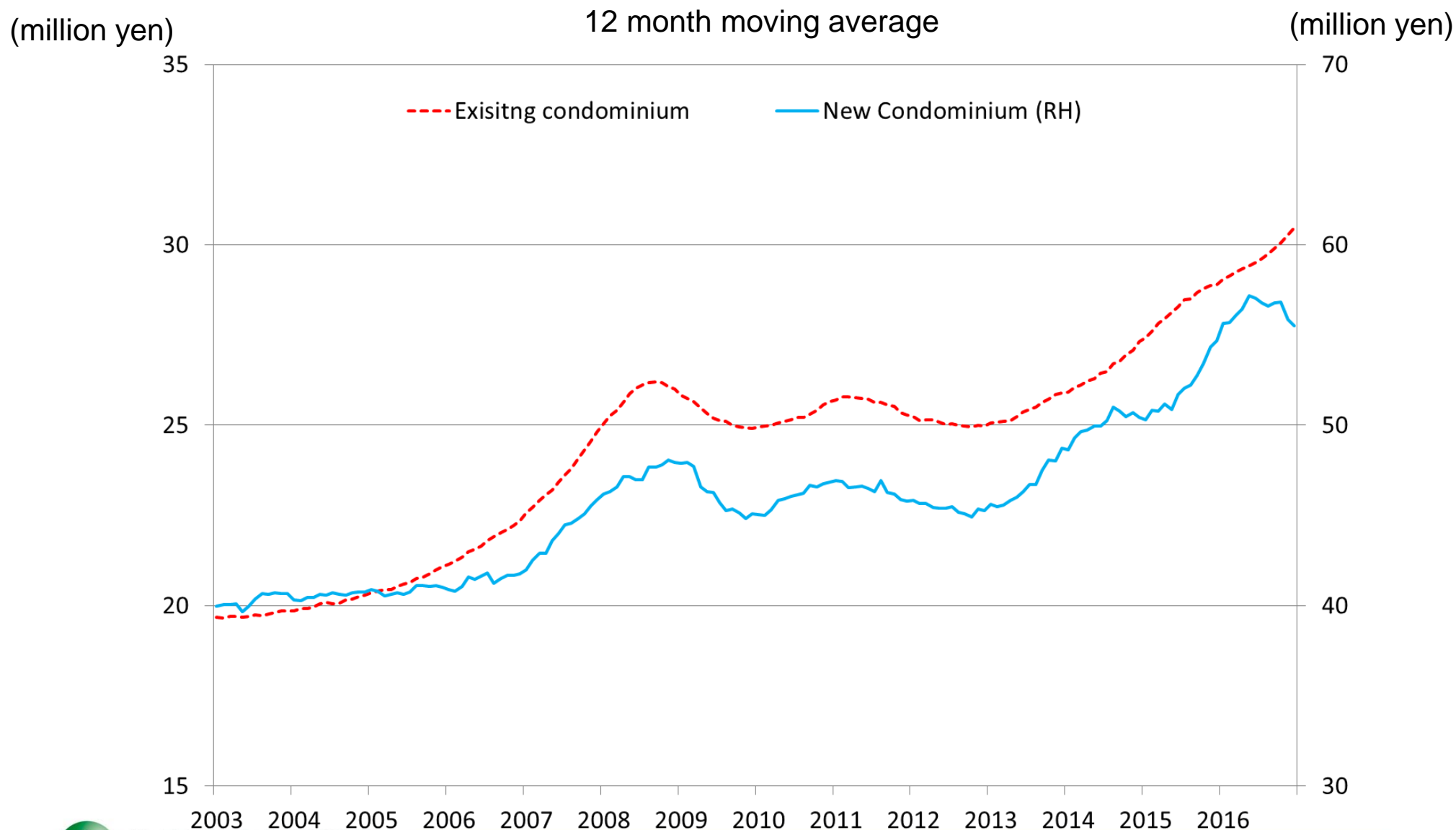
(Source) MIAC

Employment Conditions (Diffusion index of "Excessive Employment" minus "Insufficient Employment")



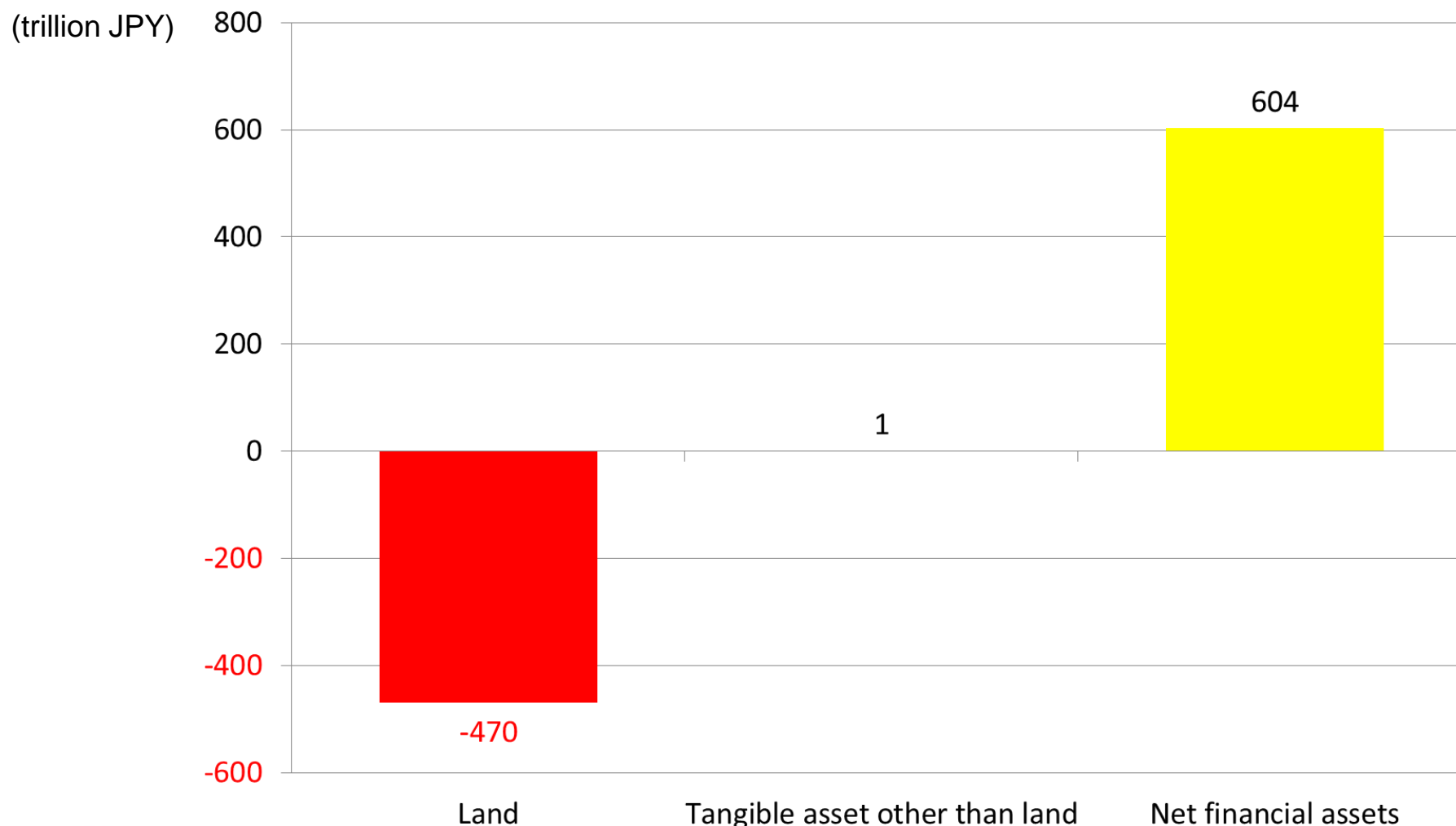
(Source) Bank of Japan

Unit price of existing and new condominiums in Tokyo Met. Area

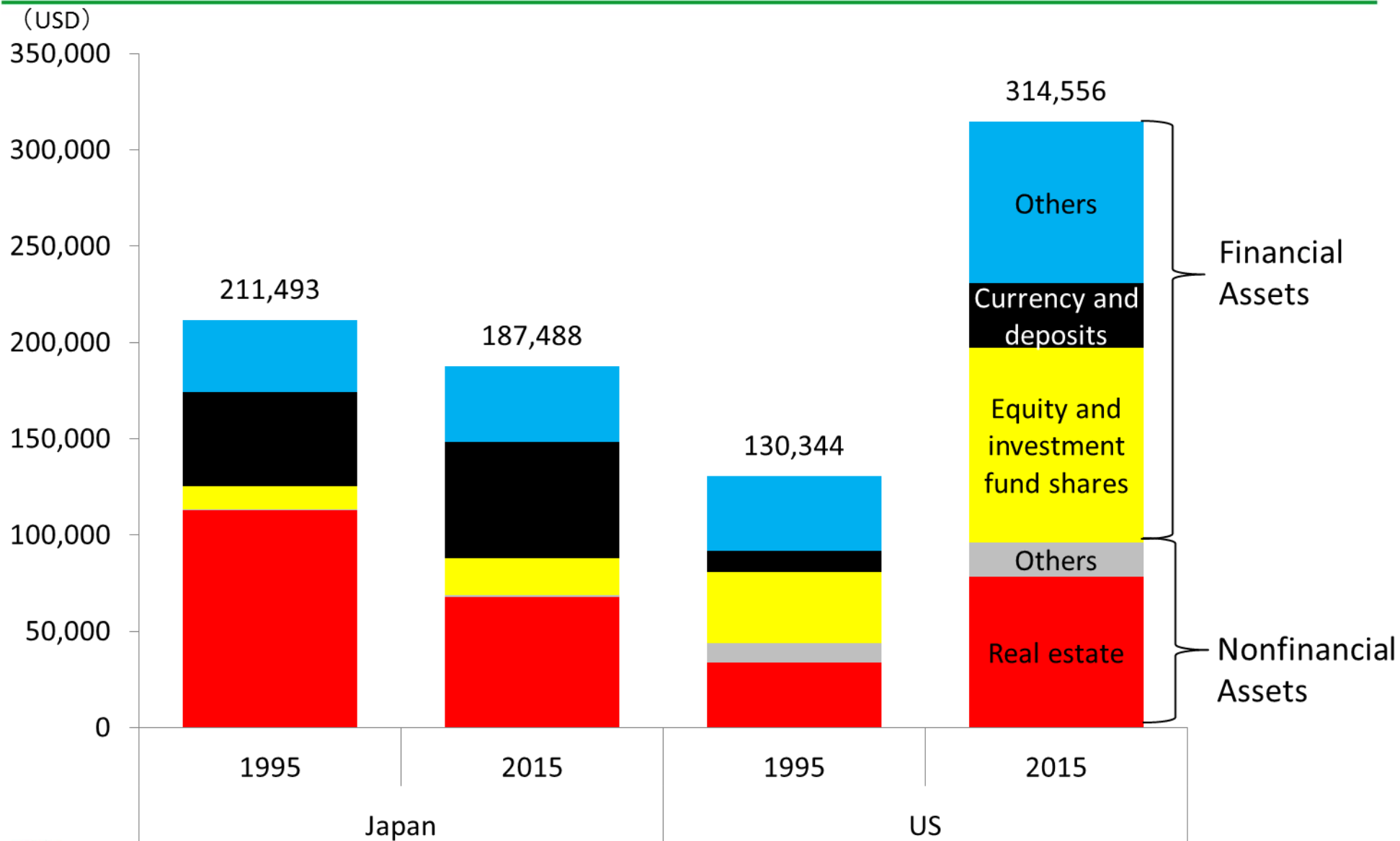


Change of balance of assets held by household in Japan from 1994 to 2015

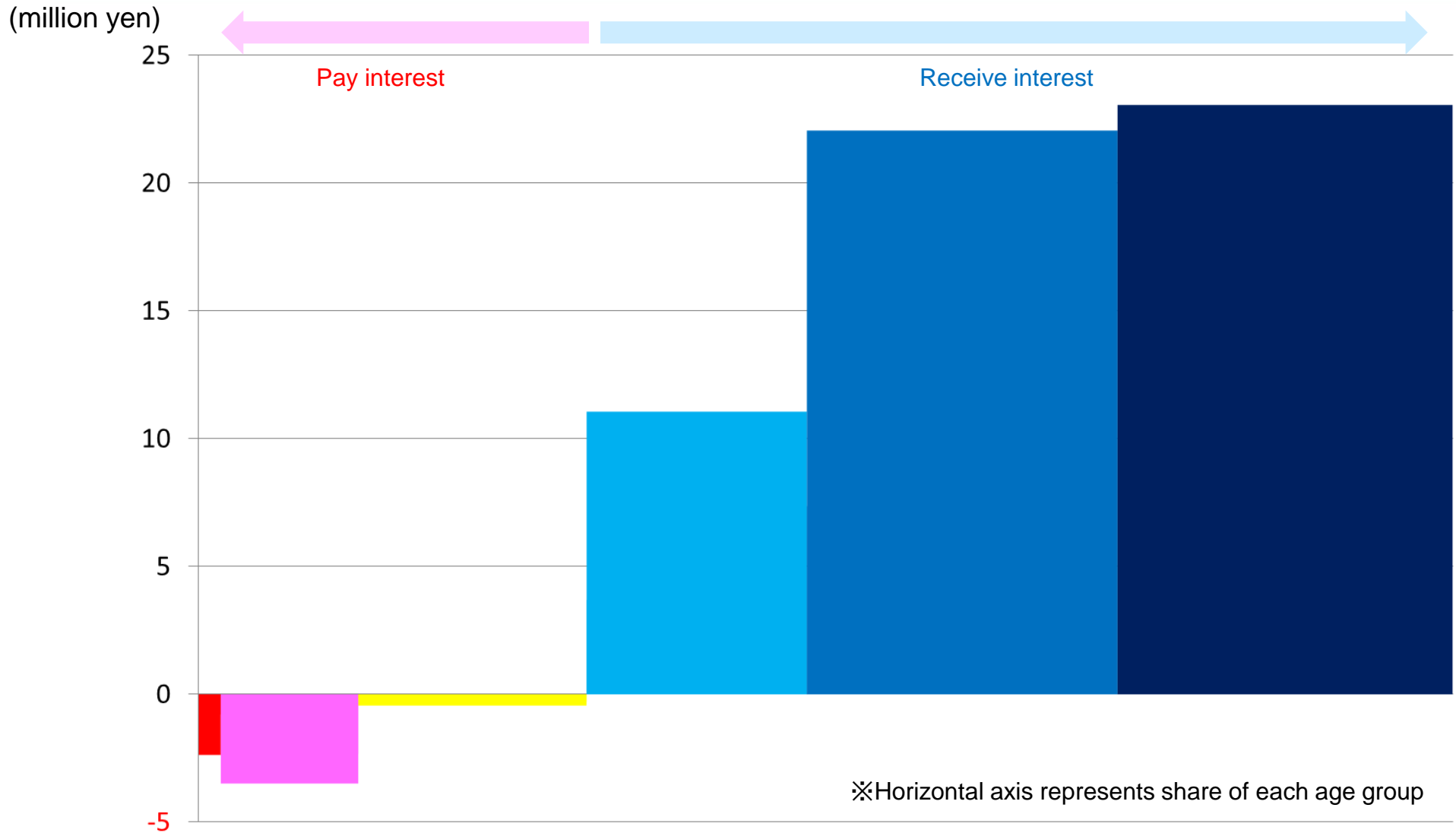
During the asset disinflation period, household sector hoarded equivalent or more amount of financial assets (mainly in the form of bank deposits) and restrained personal consumption.



Gross household assets per capita

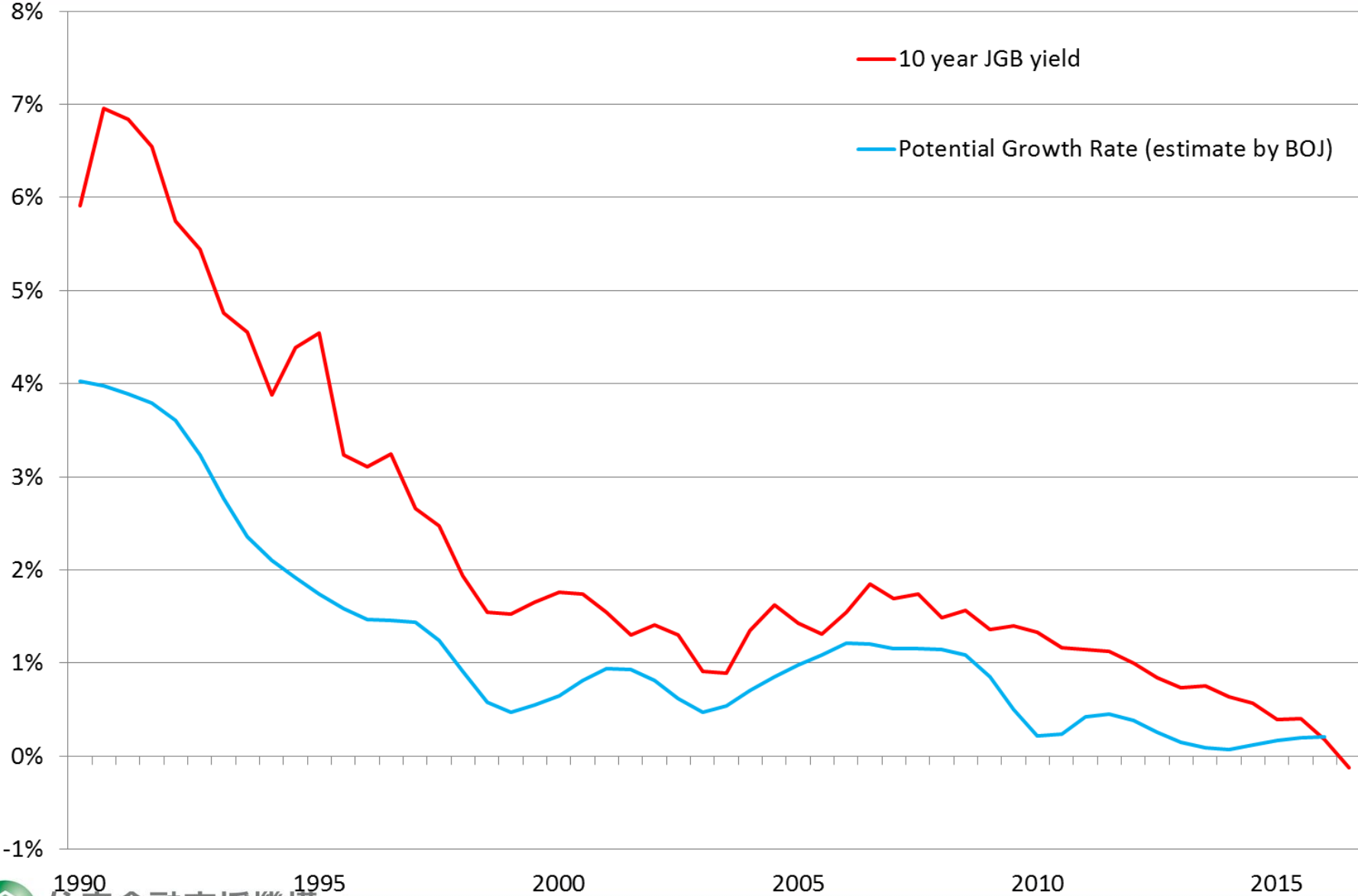


Net financial assets per household by age group in Japan



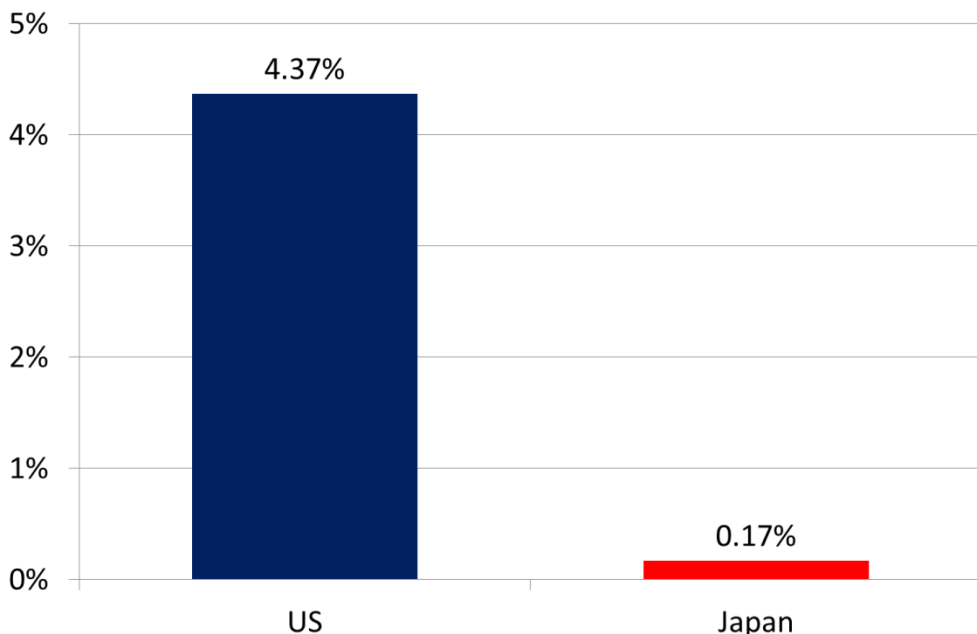
■ ~ 29 years old ■ 30 ~ 39 ■ 40 ~ 49 ■ 50 ~ 59 ■ 60 ~ 69 ■ 70 years old ~

Long term interest rate and potential growth rate in Japan

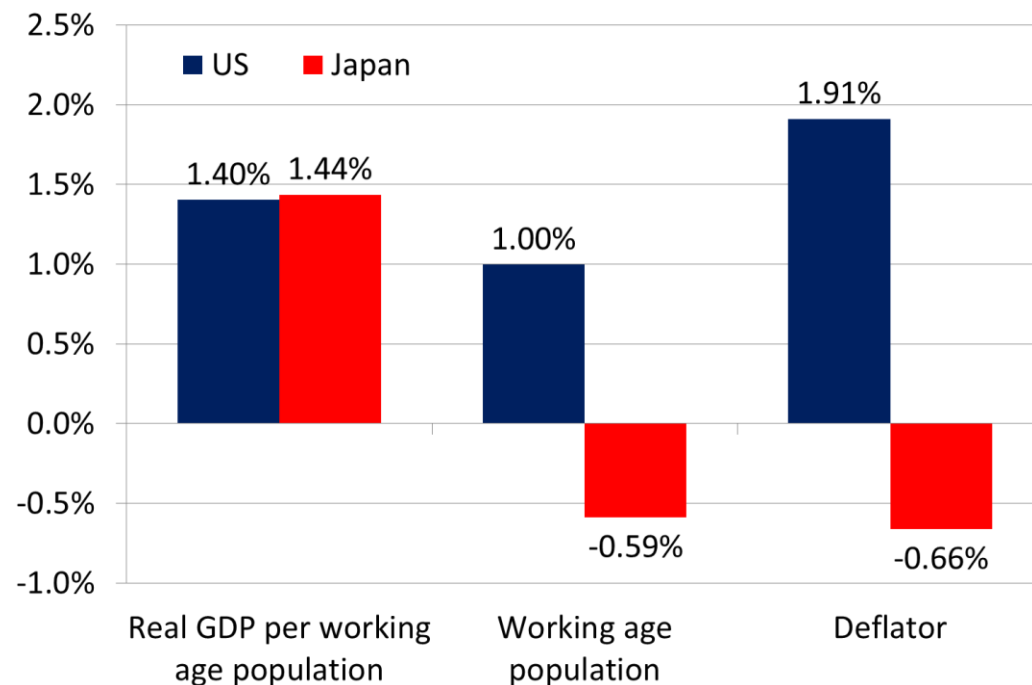


Japanese workers performed well, but

Annualized growth rate of nominal GDP from 1995 to 2015

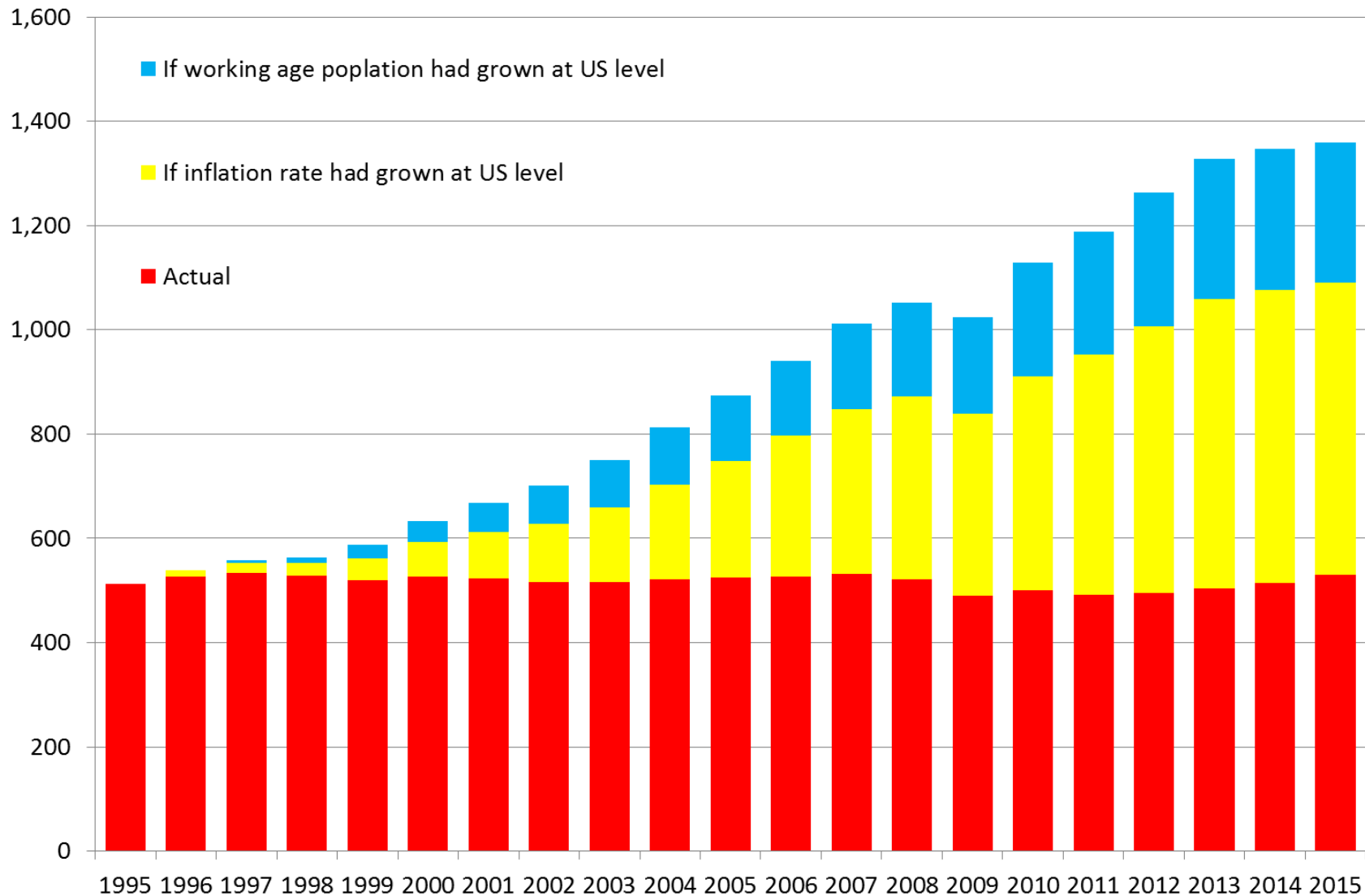


Annualized growth rate from 1995 to 2015: Breakdown of component of nominal GDP



Nominal GDP in Japan stagnated due to deflation and demographics

(trillion JPY)



Reverse mortgage products sponsored by JHF

(1) Direct origination of loans with “exceptional repayment schedule for the elderly”

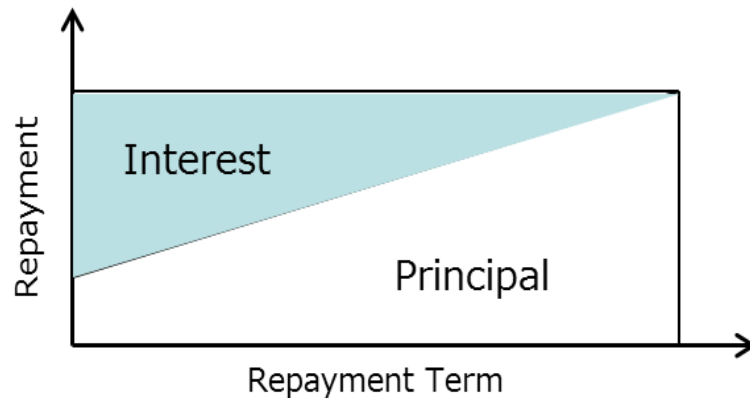
“Exceptional repayment schedule for the elderly” was introduced in FY2001 by JHF.

Outline

item	Contents
Age	60 years of age or older
Purpose	<ul style="list-style-type: none">▪ To renovate the housing unit in term of accessibility▪ To renovate the housing unit in term of earthquake resilience▪ To purchase the rebuilt condominiums
Payment Plan	A single lump sum disbursement at mortgage closing
Insurance	Insured by Foundation for Senior Citizens' Housing
Requirements	<ul style="list-style-type: none">▪ Own the property outright▪ Occupy the property as your principal residence▪ Participate in a counseling session given by a counselor of Foundation for Senior Citizens' Housing or JHF etc.
Repayment	<ul style="list-style-type: none">▪ Only the interest is repaid for the monthly repayment.▪ The entire principal is repaid in lump sum in the event of the borrower's death. (recourse)
Max Loan Amount	10 Million Yen
Cumulative disbursed loan number	629 (As of the end of FY 2015)

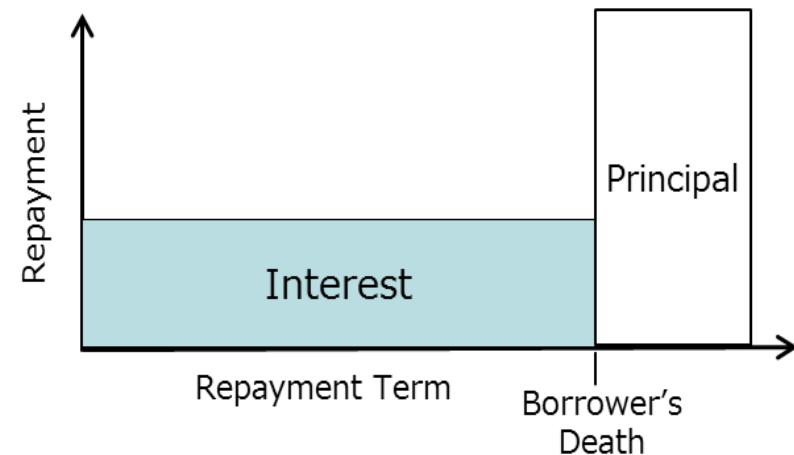
Exceptional repayment schedule for the elderly (Reverse Mortgage)

Forward Mortgage (Monthly principal and interest equal repayment)



- Monthly repayment amount (Principal + Interest) is fixed
- ※ Monthly repayment amount for principal equal repayment differs from the figure indicated above.
- Repayment is continued until the principal outstanding balance is finished to repay

Reverse Mortgage (Monthly interest only repayment)



- Only the interest is repaid for the monthly repayment
- The entire principal is repaid in the event of the borrower's death

Reverse mortgage products sponsored by JHF

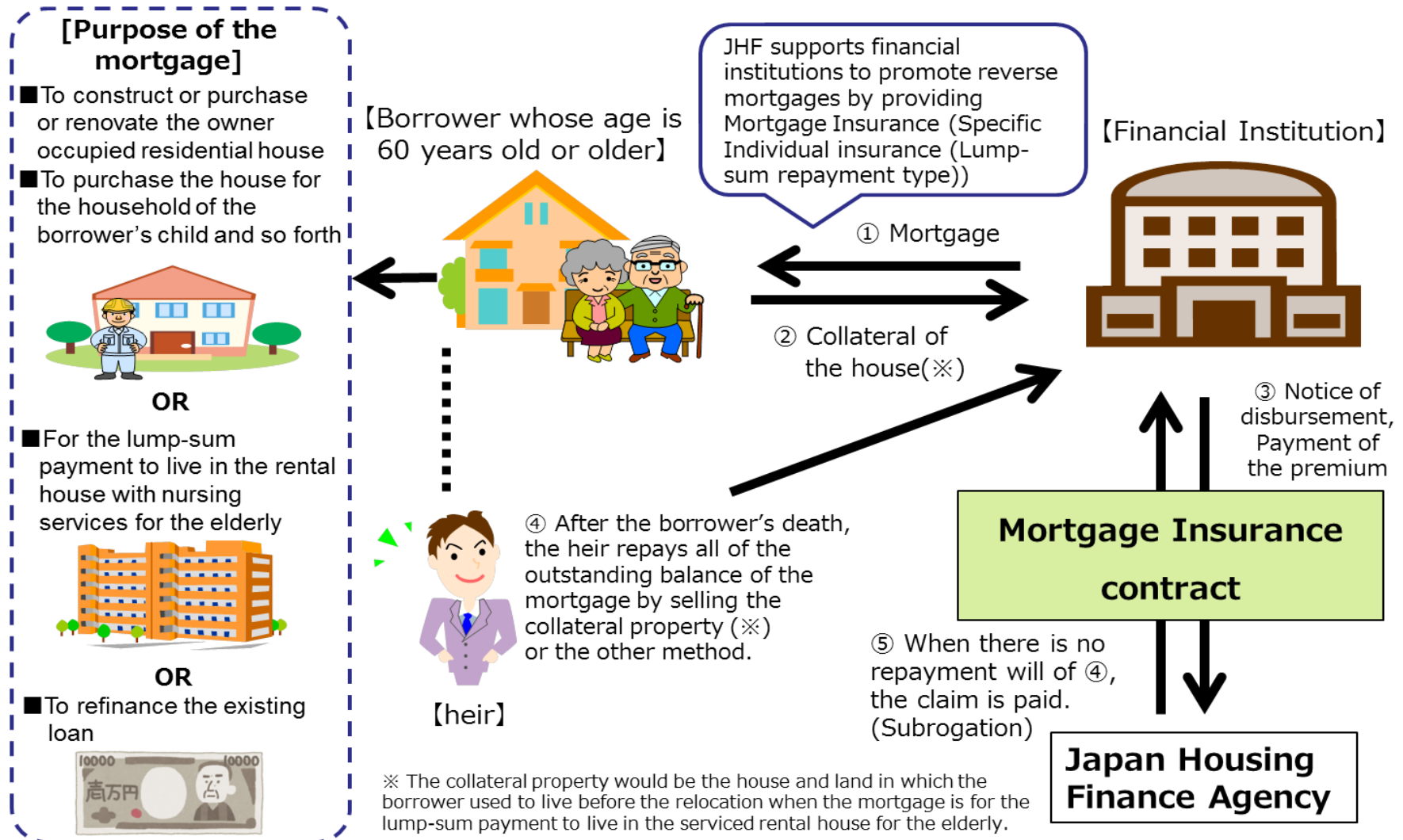
(2) Insurance program

JHF provides mortgage insurance to private financial institutions as FHA does in the US.

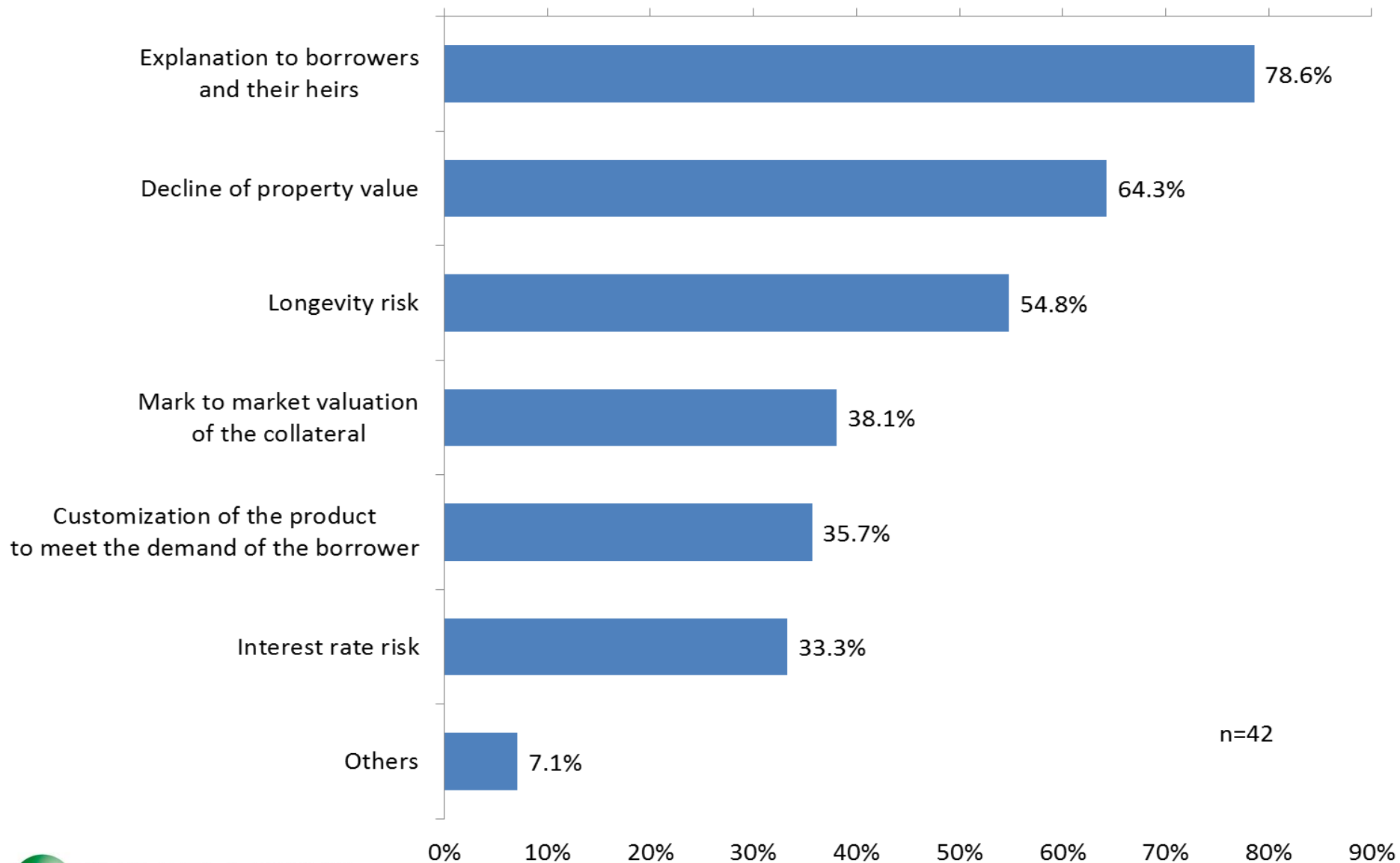
Outline

item	Contents
Age	60 years of age or older
Purpose	<ul style="list-style-type: none">▪ To construct or purchase or renovate the owner occupied residential house▪ For the lump-sum payment to live in the rental house with nursing services for the elderly▪ To refinance the existing loan
Payment Plan	A single lump sum disbursement at mortgage closing
Requirements	<ul style="list-style-type: none">▪ Participate in a counseling session given by a counselor of Financial Institutions etc.
Repayment	<ul style="list-style-type: none">▪ Only the interest is repaid for the monthly repayment. The entire principal is repaid in lump sum in the event of the borrower's death.▪ Both the interest and principal are repaid in one payment in the event of the borrower's death. (recourse)
Approved Lender Number	19 Lenders (More than 2/3 of them joined after April 2015) ※As of October 1, 2016

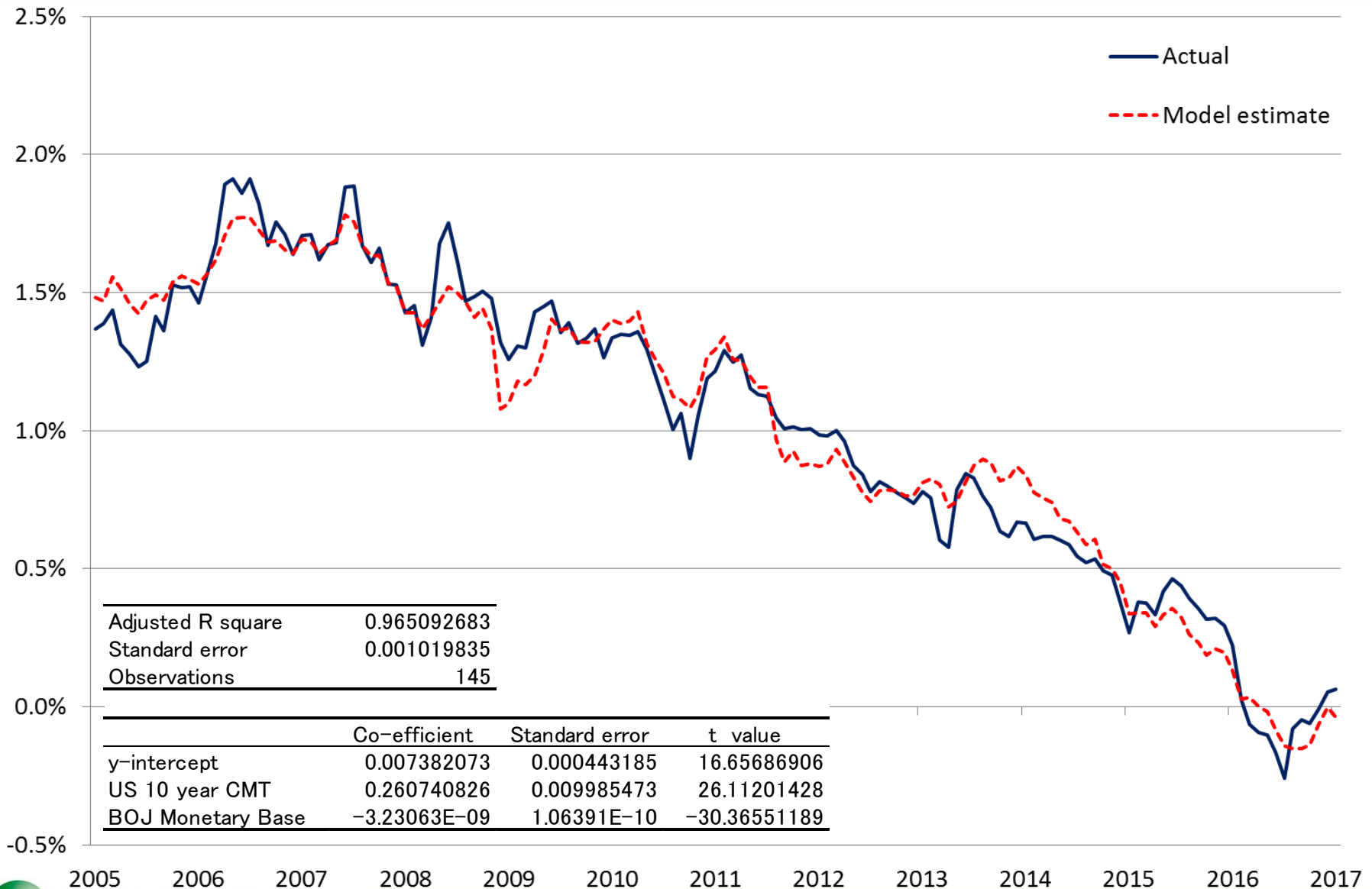
Scheme of Reverse Mortgage (with Mortgage Insurance)



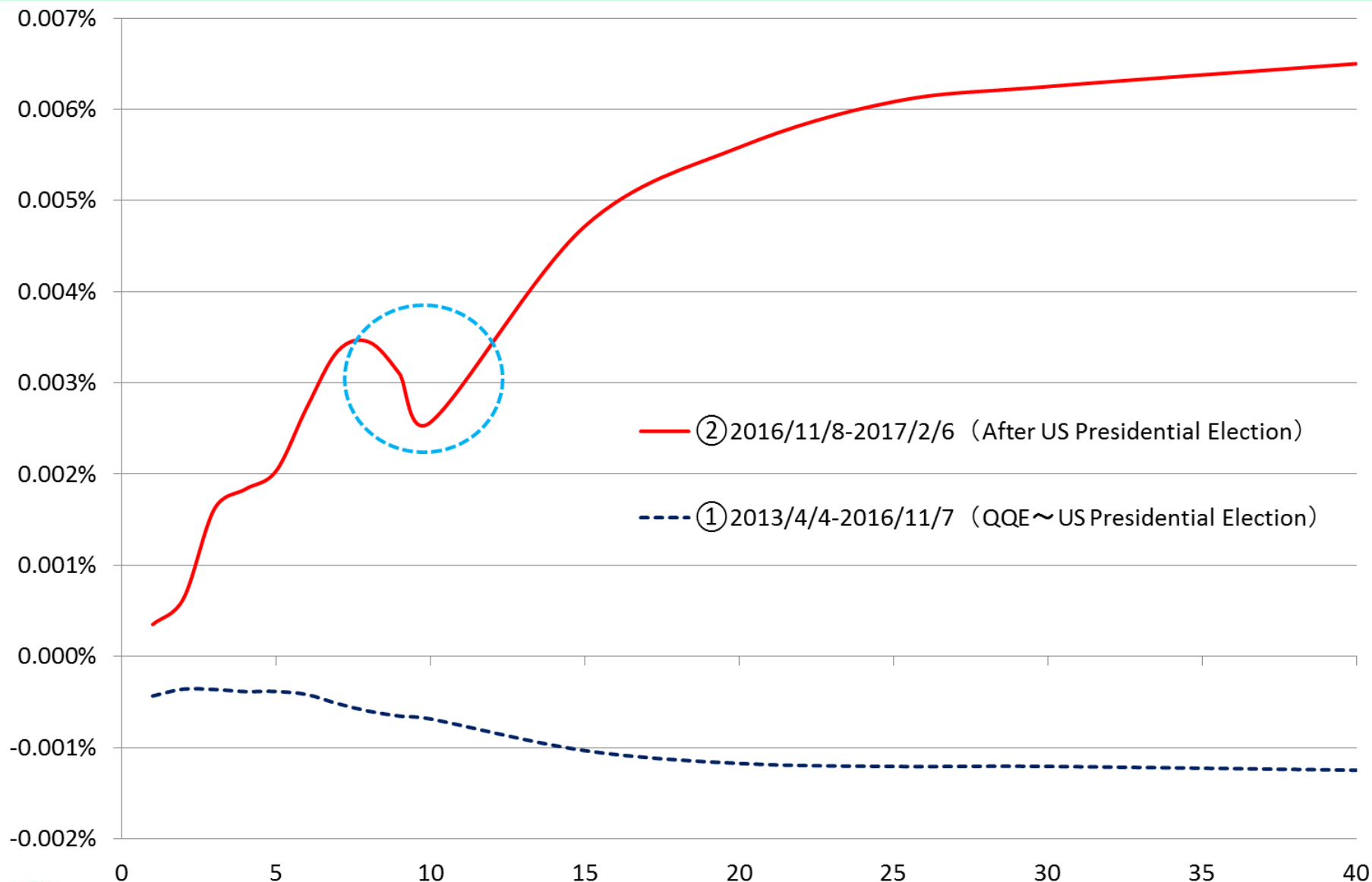
Challenges to handle reverse mortgage in Japan



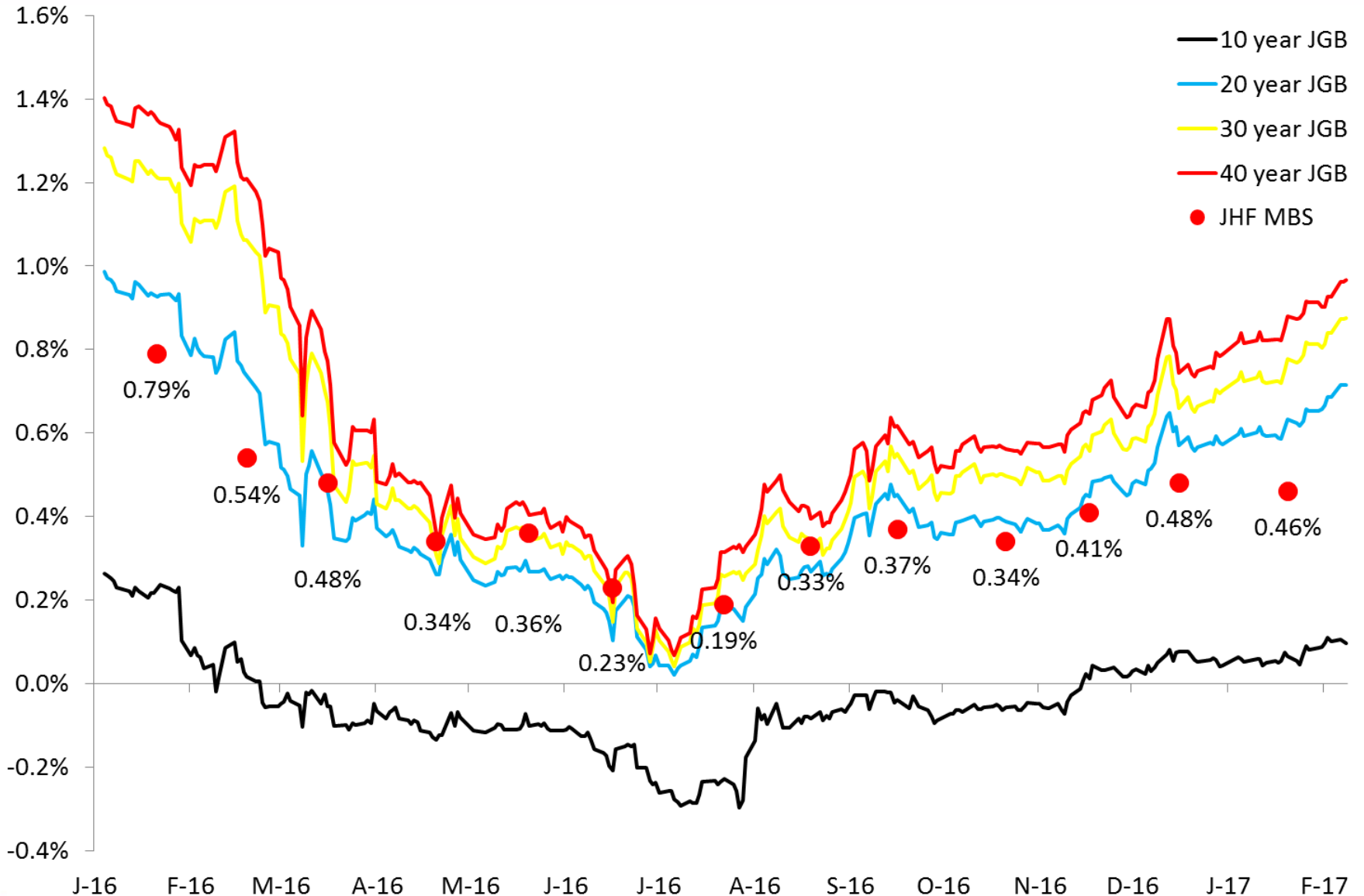
10 year JGB yields



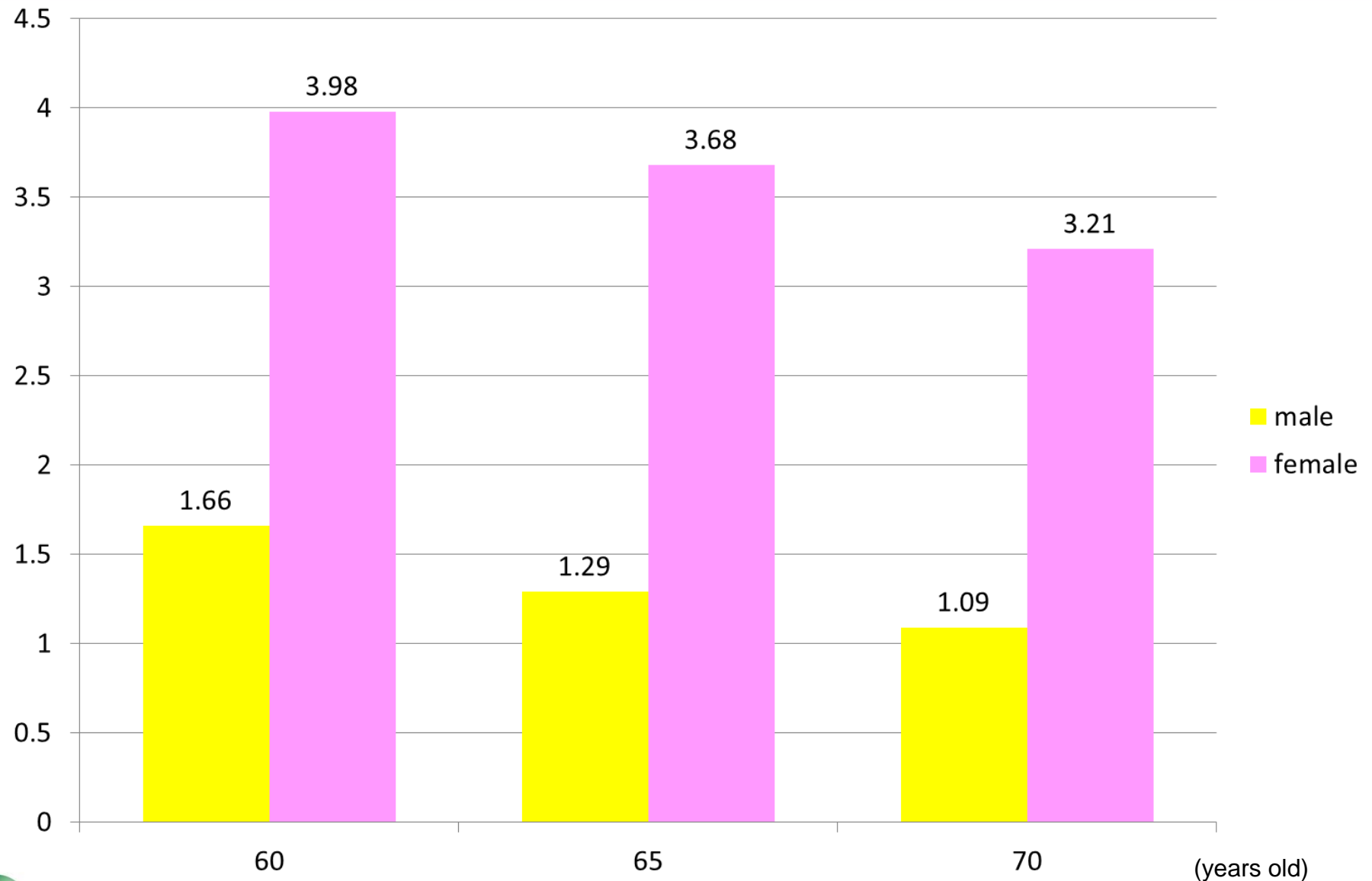
Change of daily average of 10 year JGB yields curve



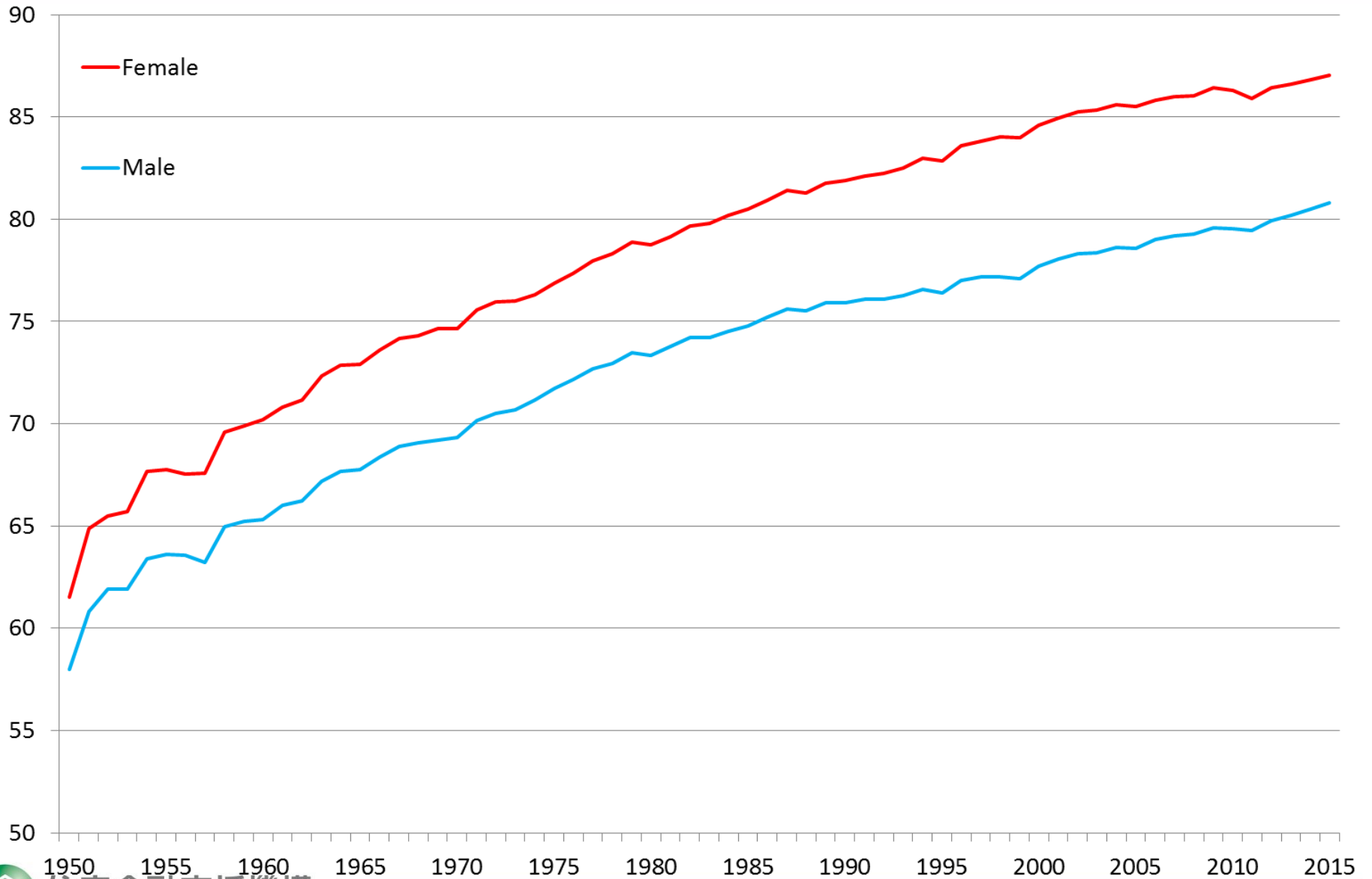
Long term JGB and JHF MBS yields



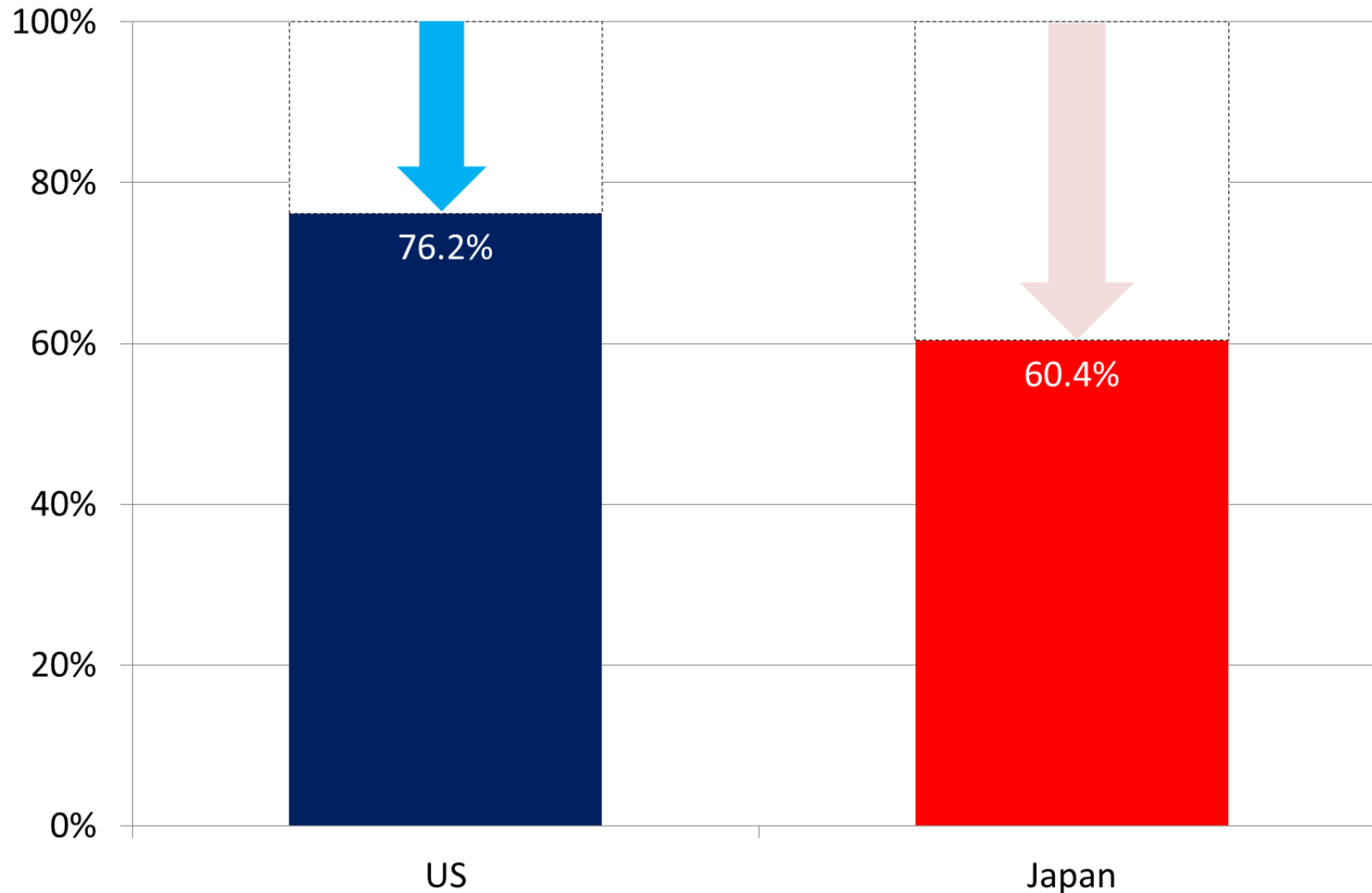
Difference of life expectancy between Japan and US at selected age as of 2014



Average life expectancy in Japan



Price ratio of existing houses to new houses

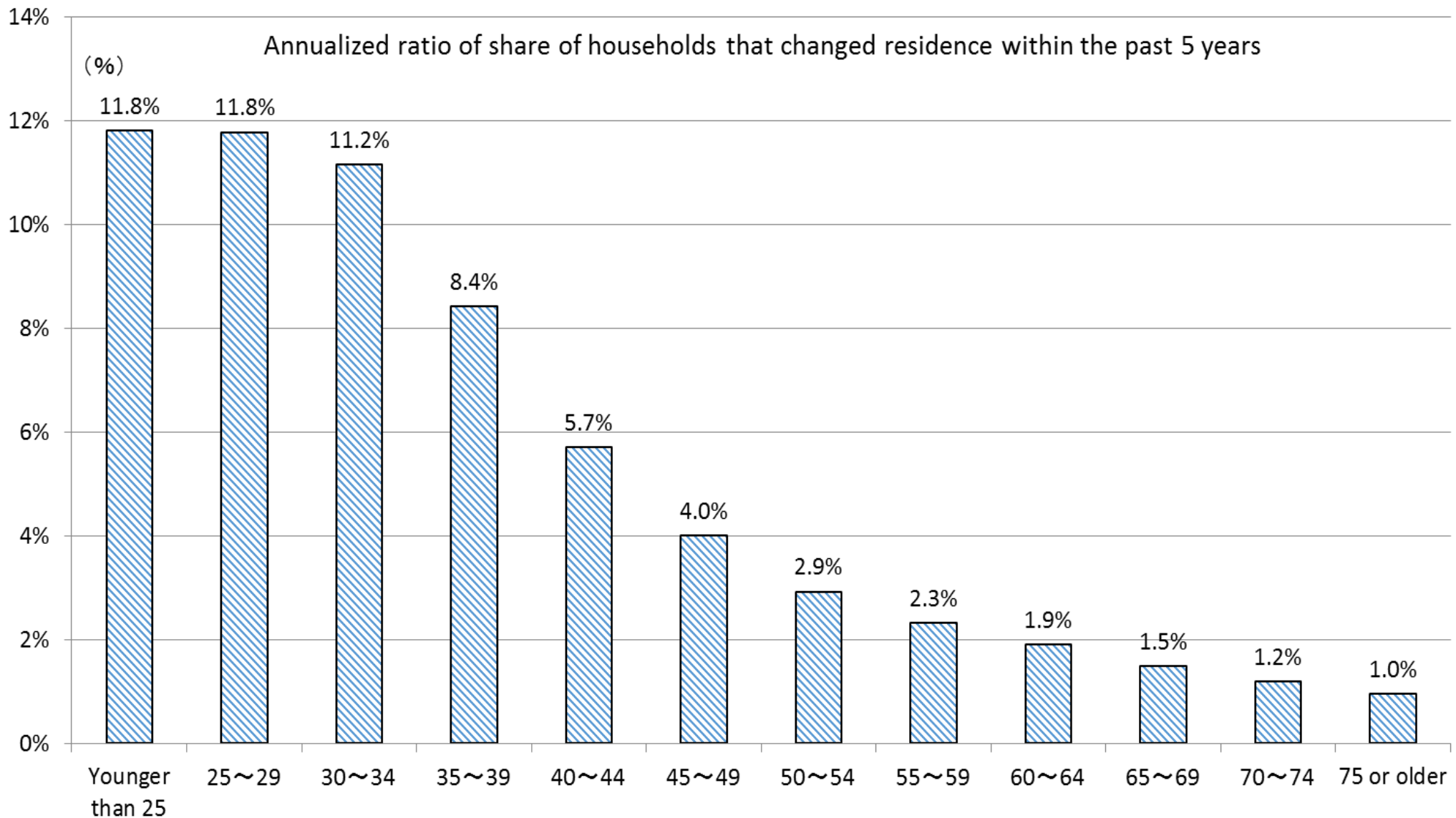


(Note) Figure for the US is medium price.

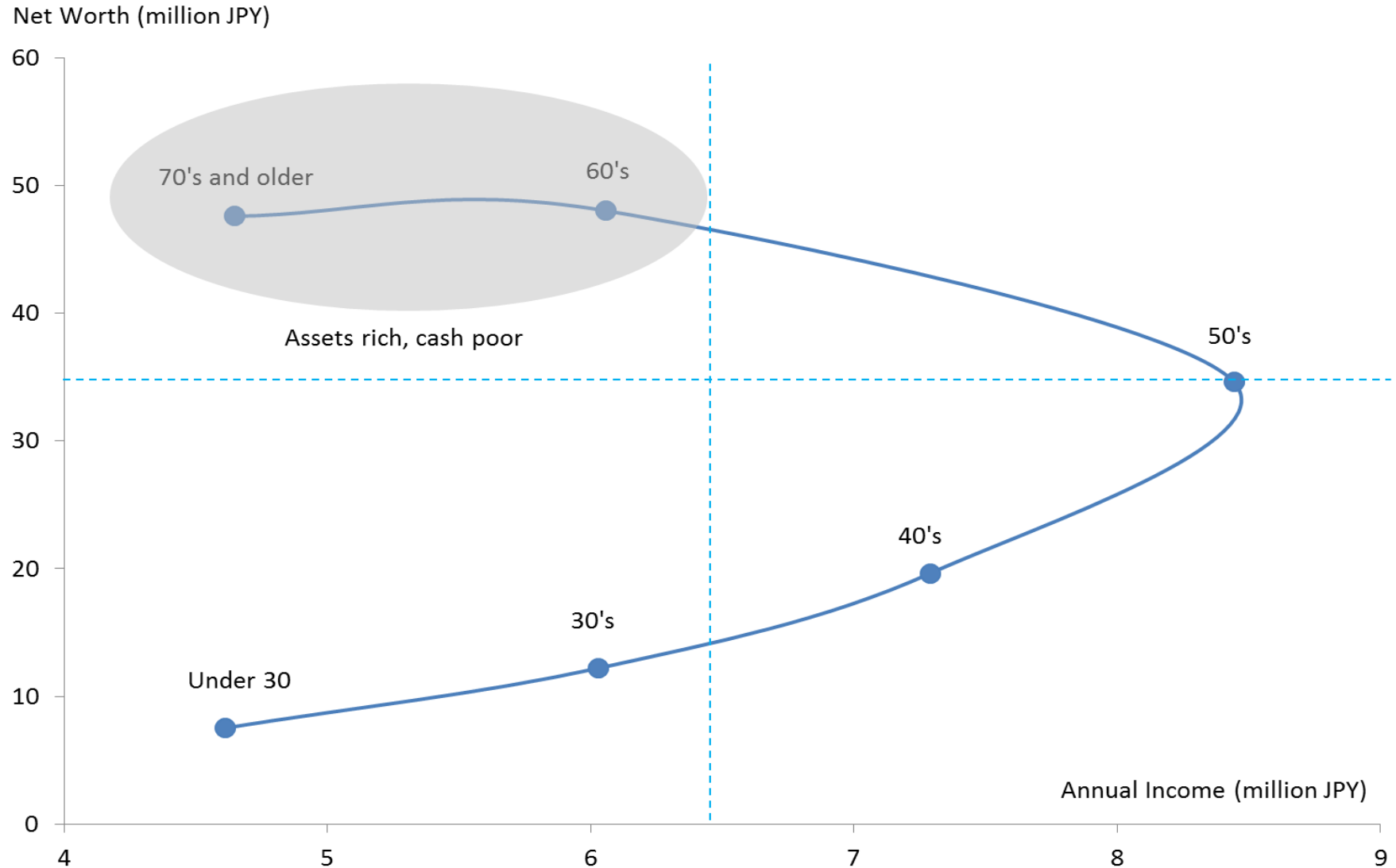
Figure for Japan is per square meter unit price of condominium sold in Tokyo Metropolitan Area.

Figures are weighted average for the period of Jan 2007 to Dec 2016.

Elderly population has less mobility



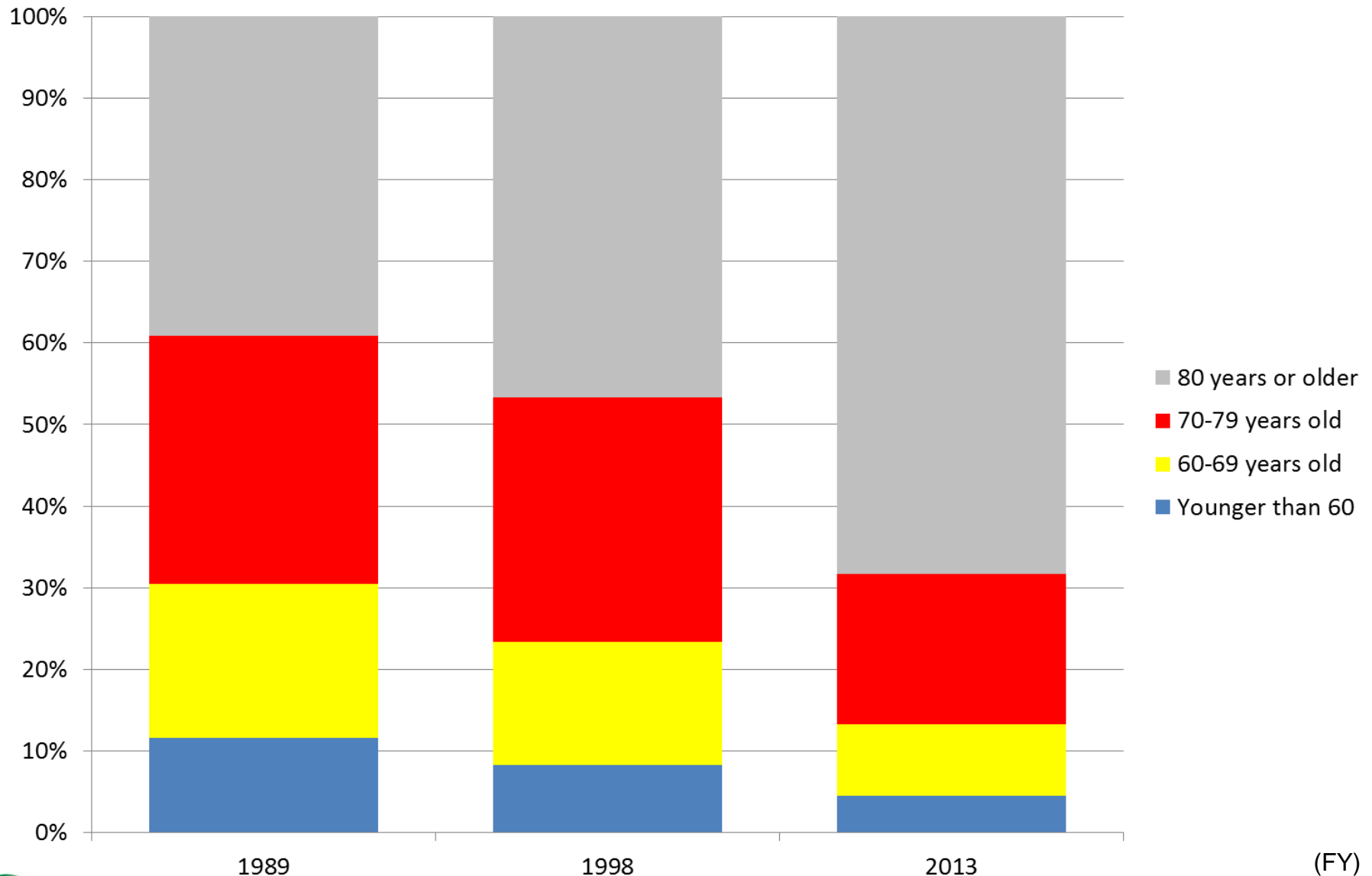
Assets and income by the age group of household head in Japan



Amount of real estate and net financial assets held by each age group (as of 2014)

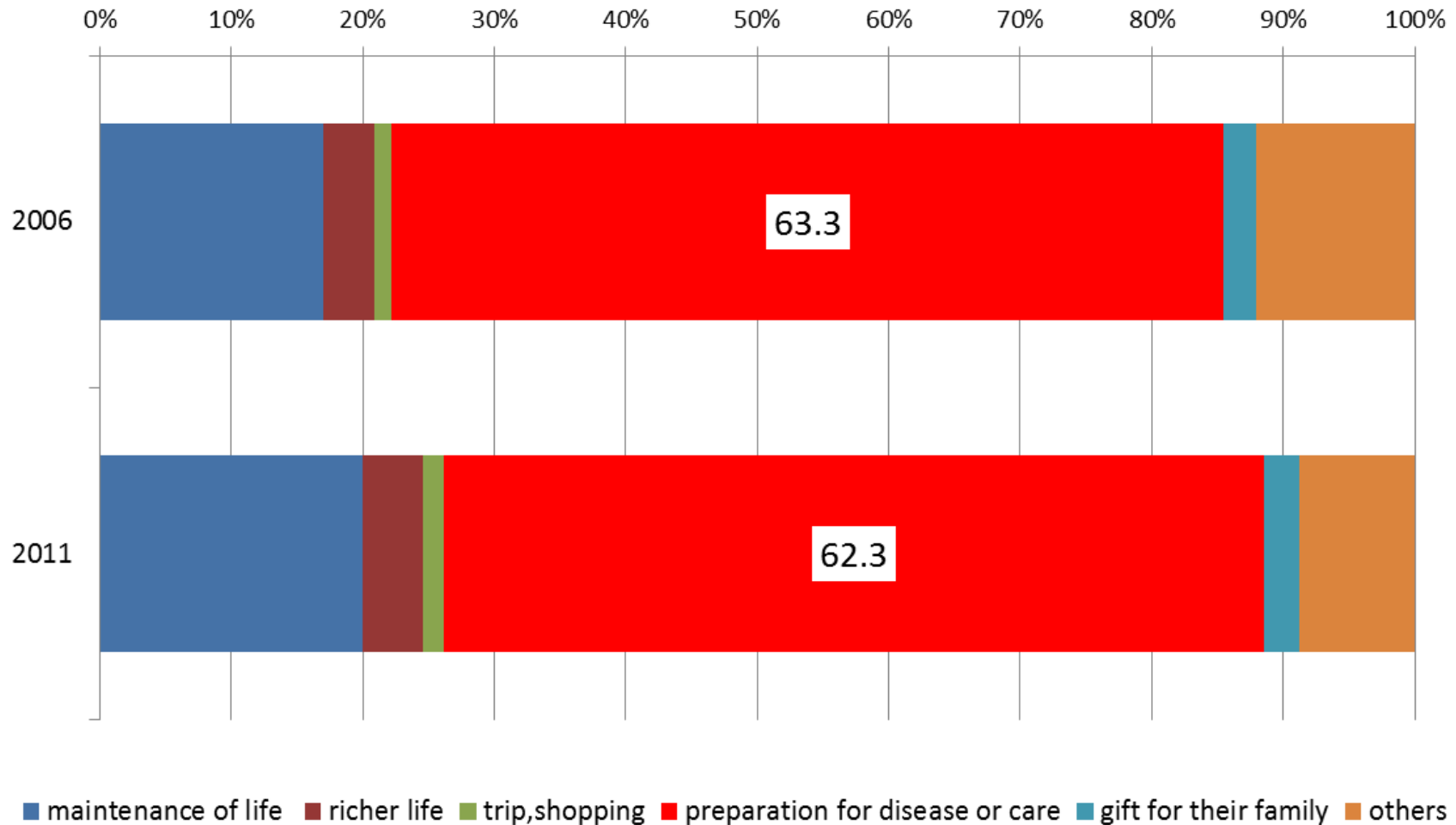


Composition of age of heirs based on inheritance tax record



Purpose of savings by the elderly in Japan

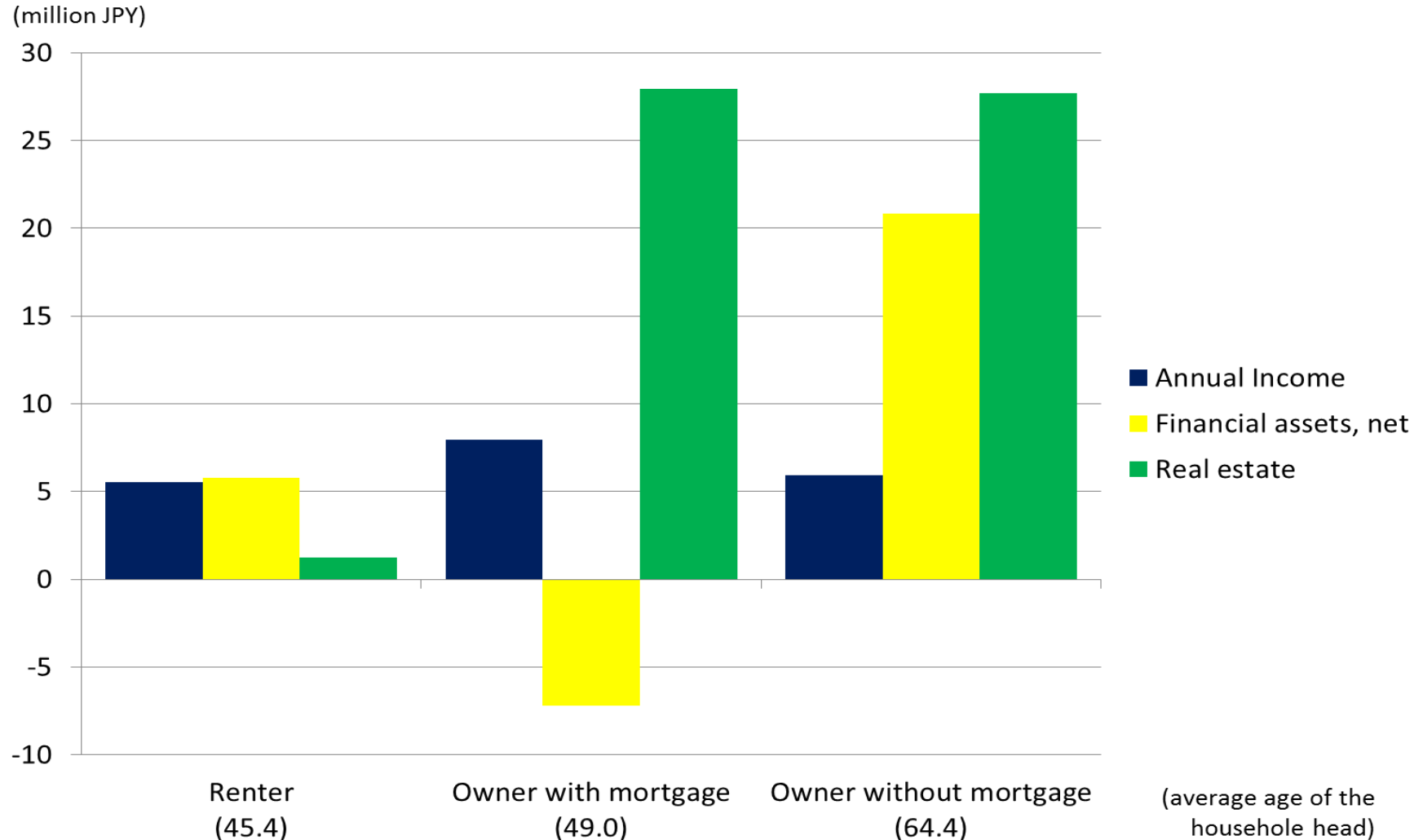
Main purpose of savings by the elderly in Japan is preparation for disease or care.



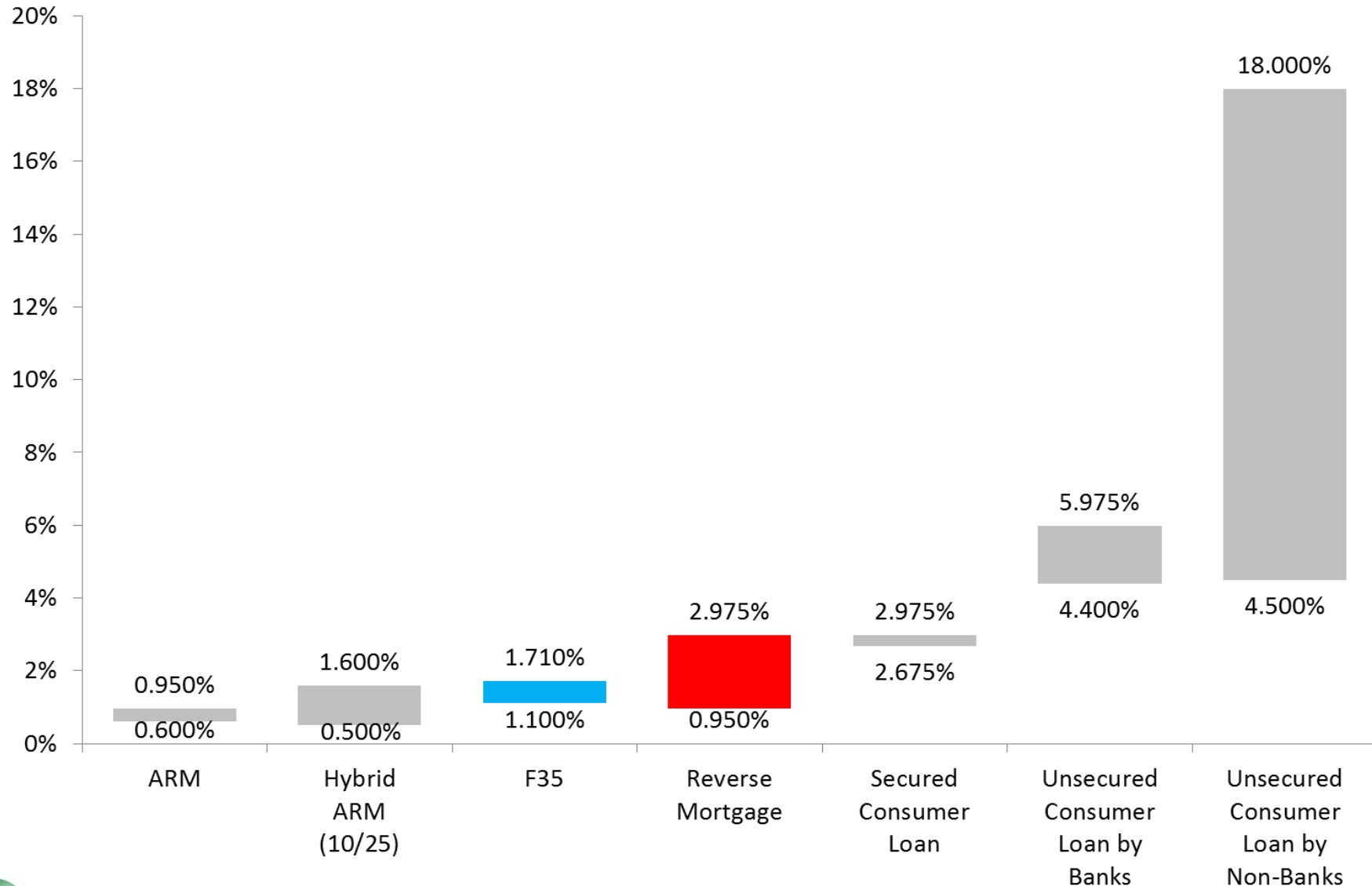
Note: Males and females aged 60 or older were surveyed

Average income and assets by owner and renters

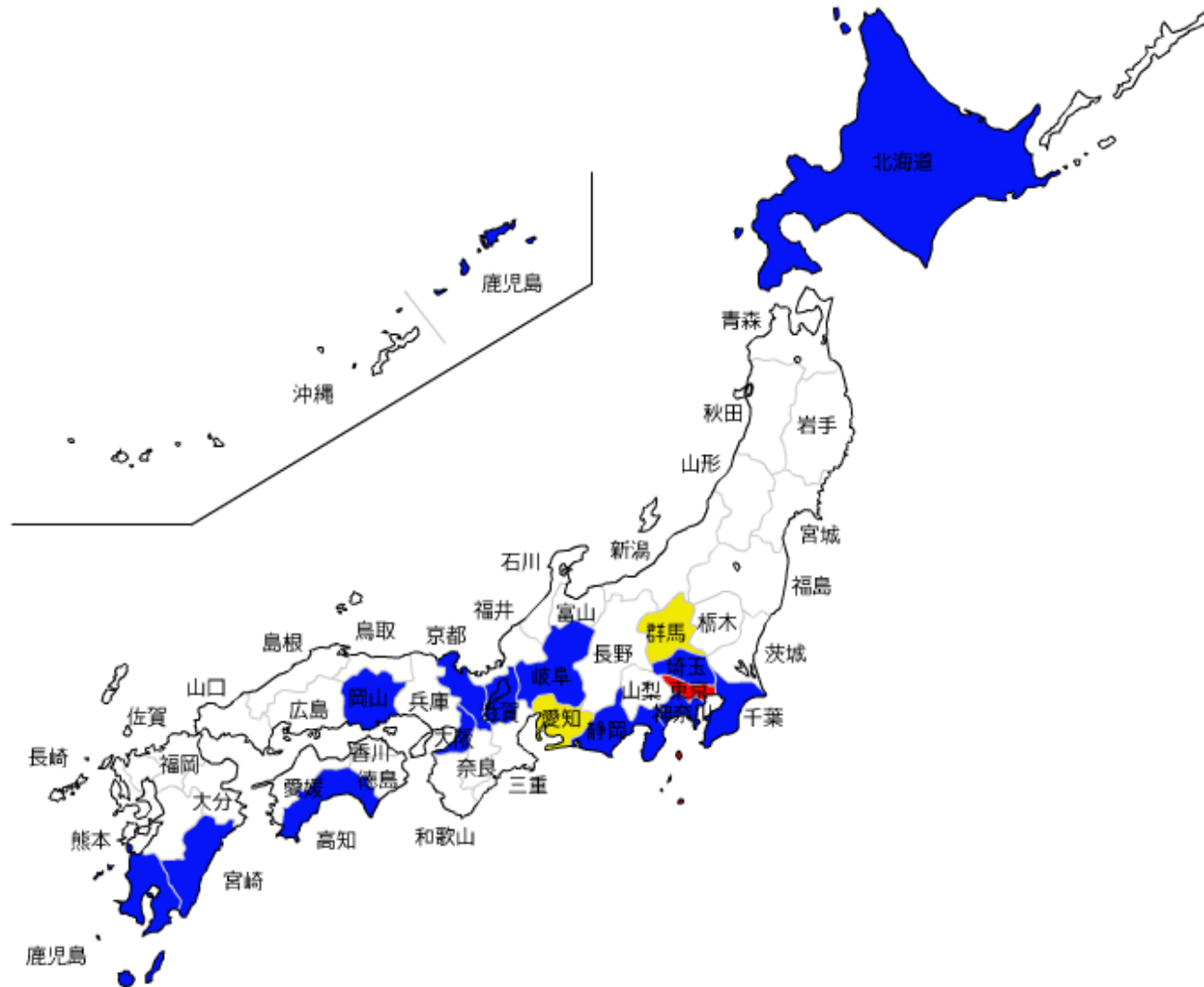
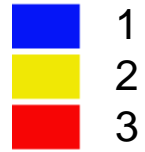
Owners are better off than renters.



Interest rates on various financial products in Japan (as of June 2016)



Number of financial institutions which are positive to reverse mortgage



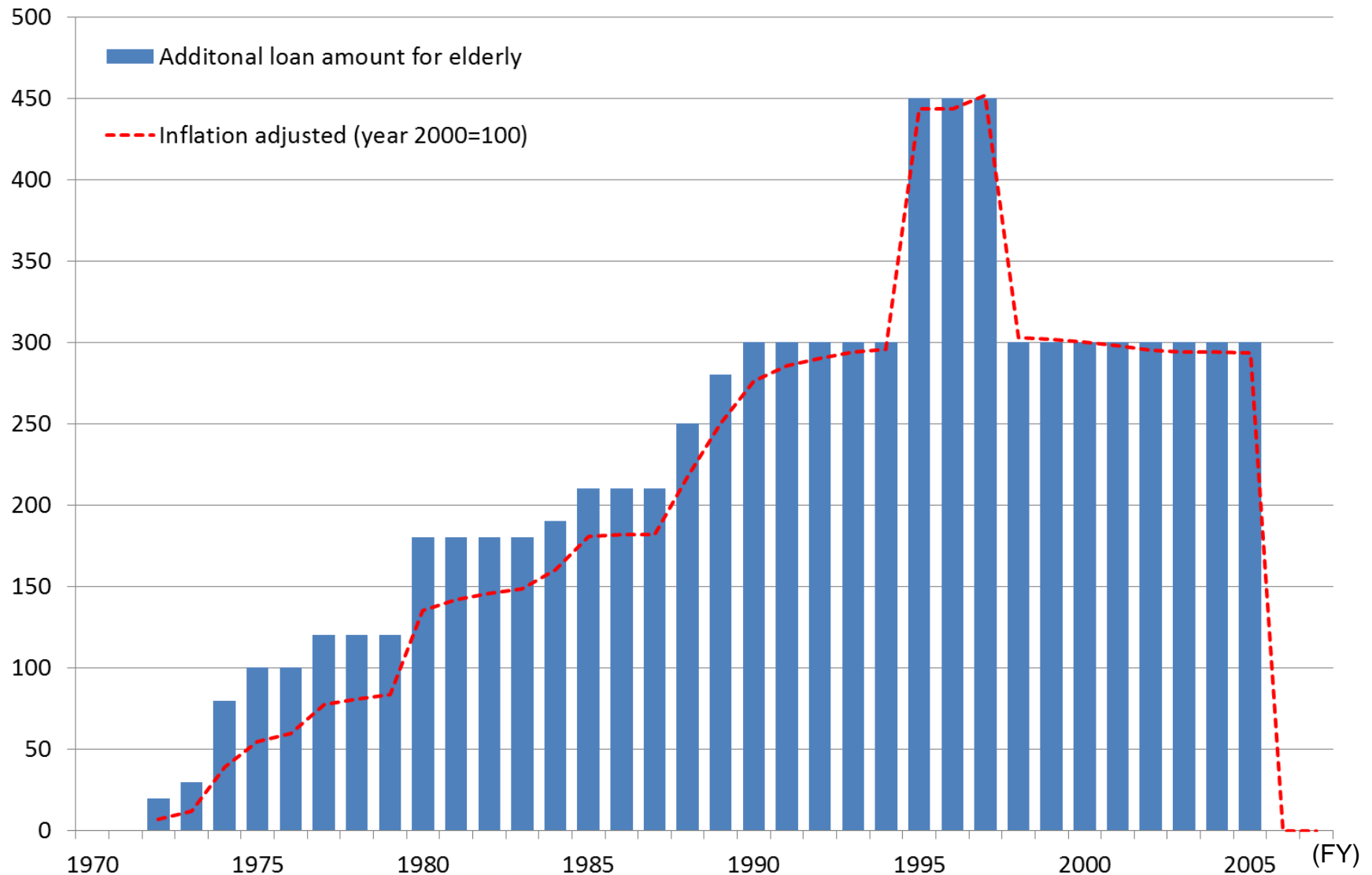
Non-Recourse vs Recourse

In Japan, Recourse is more popular.

Country	Sector	Institution	Non-Recourse	Recourse
US	Public Sector	FHA	○	
Japan	Private Sector	A financial institution		○
		B financial institution		○
		C financial institution	○	
	Public Sector	D		○
		JHF		○

Additional loan amount for elderly under GHLC lending program

(10,000 yen)



Lending program for serviced apartment for elderly

JHF does not originate mortgages in the primary market in principle. Basically, JHF focuses on assisting private lenders to originate fixed rate mortgages through its secondary market operation.

However, JHF continues to extend lending program for limited areas with such policy focus as assistance for elderly habitation.

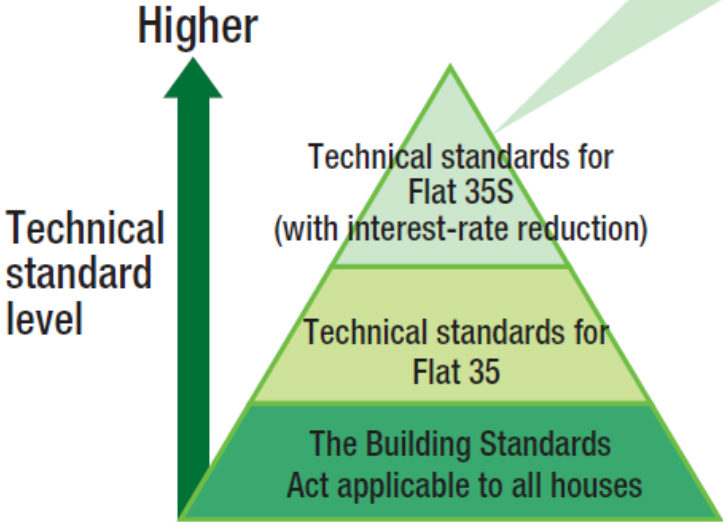
When private developers construct serviced apartments for elderly that meet certain criteria established in accordance with Law to Secure Elderly Habitation, JHF extends 100% of the construction cost of such apartment with 35 or 15 year fixed rate mortgages.







Enhancement of quality of houses through secondary market operation

- JHF established the technical standards for Flat 35 and Flat 35S.
- JHF reduces interest rates for a certain period for the high quality houses which satisfy one of the 4 performances in terms of energy saving, earthquake resistance, **elderly accessibility** and durability and flexibility for Flat35S.

<4 performances targeted by Flat 35S>



<p>Housing with high energy-saving performance</p>  <ul style="list-style-type: none"> ● Use heat-insulation materials sufficiently. ● Equip windows and doors with double-closing device. 	<p>Housing with excellent earthquake-resistance</p>  <ul style="list-style-type: none"> ● Securing of wall quantity ● Balanced layout ● Strengthen joint parts of building frames ● Strengthen foundation
<p>It is required that houses be more heatproof so that they consume less electricity and fossil fuels such as kerosene for heating and cooling in view of conserving the global environment.</p>	<p>It is very important to prepare for large earthquakes, enhance housing seismic resistance and ensure safety.</p>
<p>Housing with excellent barrier-free performance</p>  <ul style="list-style-type: none"> ● Ensure that there are no different levels on the same floor. ● Install handrails ● Make sufficiently wide corridors. 	<p>Housing with high durability and flexibility</p>  <ul style="list-style-type: none"> ● Proof against decay and termites ● Ensure ventilation in the roof frame and under the floor
<p>It should be a principle requirement in building houses that houses are comfortable for elderly people, including preparation for nursing care.</p>	<p>As Japan has become a mature society, there is now an urgent need for a good-quality/ housing stock to be built. Building as durable houses as possible and using them carefully for a long time will help us to protect our lives and the global environment.</p>

Thank you for your attention.

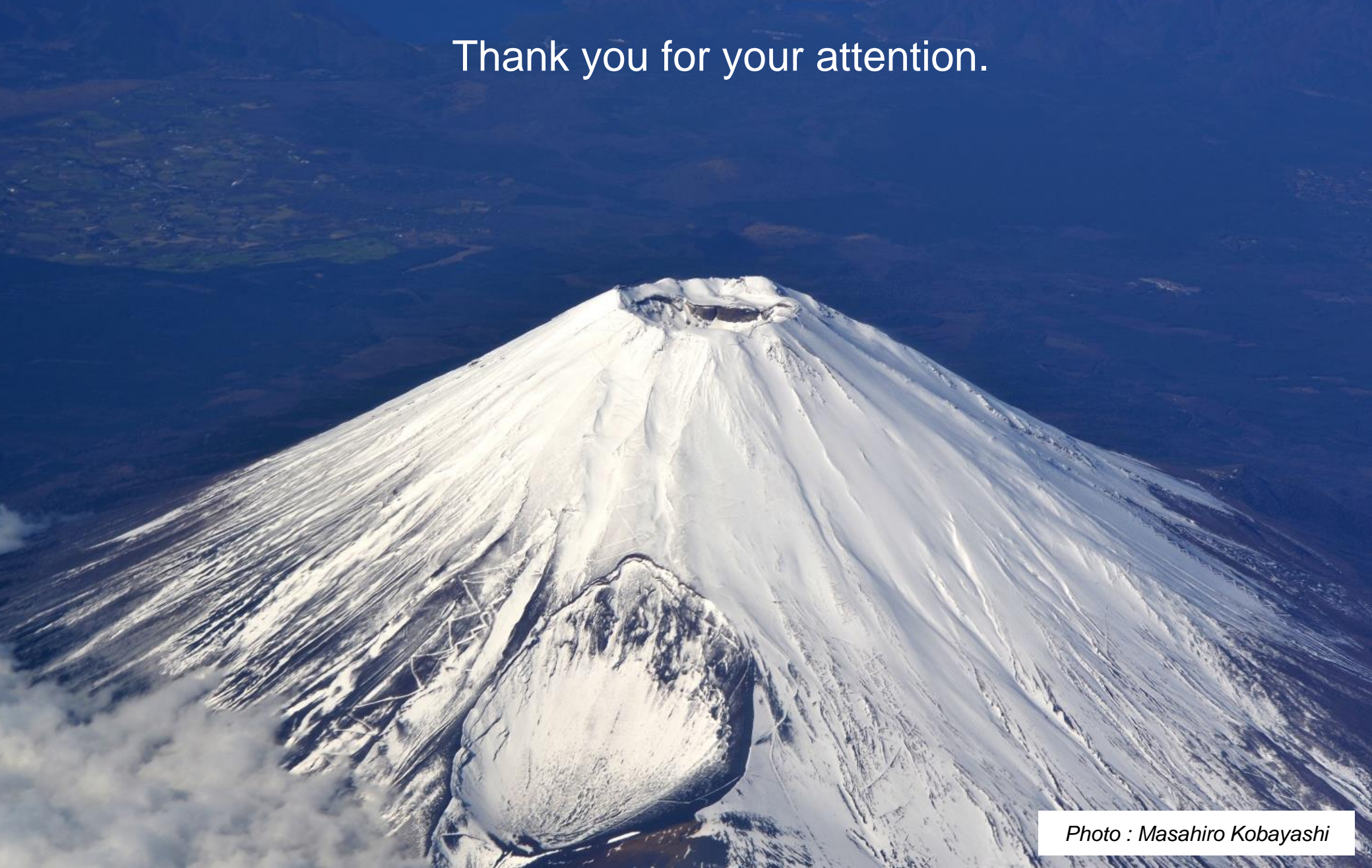


Photo : Masahiro Kobayashi

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