Special Speech

Prospects of Japan’s social security system and role of public and private pensions

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Keywords of the Lecture

• 2017 new population estimates. Continued decline in population/increase in longevity
• The outlook for the social security system reform
• The issues facing the public pension system and verification of the 2019 pension finance
• The roles of public and private pension programs
• Financial gerontology, financial literacy and behavioral economics
Frequent Social Security System Reforms and System Revisions

• 1: A period of intensive reform toward 2025. Public funds to be concentrated on low-income earners and healthcare/Long-term care

• 2: Pension continues to be reformed every five years, healthcare, every two years and Long-term care, every three years through meticulous system and fee revisions (healthcare and Long-term care to be revised every six years simultaneously)

• Pension: 2019 and 2024 (ensuring of the pension replacement rate under fixed premium and enhancement of private pension programs and measures against the low-income elderly)


• Plus joint reform of social security and taxation, social security reform program legislation and additional reform (political conditions, economic/financial conditions, demographics, etc.)

• 3: “When the nation has policy, the people find a way around” --> Does the policy have the public reaction in view?

--> The government does not eye the whole household economy in a cross-sectoral manner (individual impacts are invisible).

--> A lack of a future vision and lifelong asset building behavior.

--> A lack of the elderly’s perspective (how they feel toward, understand and react to, system reforms or changes in use of systems) (gerontology (psychology) or financial gerontology makes a contribution).

--> Economic agent, household economy and the elderly’s reaction (savings, consumption, asset building and inheritance).
New Population Estimates: Continued Extension of Longevity

Trends in, and Estimates for, Median Longevity

Survival Rates to the Specified Age (% Actual Results and Estimates)

Complied based on Projection: Population & Household by the National Institute of Population and Social Security Research (each year)
Around 2040: Society where 1.7 Million People Die and 700 Thousand People are Born

Trends in, and Estimates for, the Number of Births (unit: 1,000 people)

Actual Number of, and Estimates for, Births (1,000 people)

Estimates for the Number of Future Deaths (unit: 1,000 people)

Complied based on Projection: Population & Household 2017 by the National Institute of Population and Social Security Research
Estimates for the Number of the Elderly
Increased Percentages of Those Aged 75 or Older and Women

Complied based on Projection: Population & Household 2017 by the National Institute of Population and Social Security Research
The Issues Facing the Pension System and Verification of the 2019 Pension Finance

1: Reform implemented in 2016 based on the 2014 pension finance verification
- Resources for the so-called macroeconomic slide formula is on hold in the deflationary phase to be addressed by carry-over
- Expansion in application of employees’ pension to non-regular workers

2: Issues identified as a result of the 2014 pension finance verification
- The macroeconomic slide formula to be applied to the basic pension for a period of about 30 years
- Sharp reduction in the basic pension benefit levels. An increase in the elderly with low pension payments

3: Discussions in the 2014 pension finance verification
- “Estimated rate of profit -- Estimated real rate of interest” -- Target earnings of reserve -- Government Pension Investment Fund (GPIF)’s base portfolio

4: Policy for cooperation between public and private pension programs and diffusion of private pension programs (corporate or personal pension plans)
- Decline in employees’ pension funds
- Enhancement of private pension programs and promotion of enrollment
- Support for low-income earners needed in order to offset the effect of the macroeconomic slide formula on the basic pension
Rates of Change of Public Pension from the Current Level and Options

 Rates of Change for the Basic Pension and Proportional Part (Case E) down 30%

 Rates of Change for the Basic Pension and Proportional Part (Case H) down 43%

Source: Compiled based on Data by the Ministry of Health, Labour and Welfare (2015)
Simulation for the Effect of Pensionable Age/Period of Enrollment and Private Pension Plans

Estimated Pension Replacement Rates (%) and Supplemental Measures (Case E)

Source: Compiled based on Data by the Ministry of Health, Labour and Welfare (2015)
Aside from Benefit Levels, to What Extent Do People Understand the Public Pension Program in which They are Enrolled?

(Fig. 25) Understanding of One’s Own Pension <Q 27>

<table>
<thead>
<tr>
<th>Understanding of Pension Program</th>
<th>I know</th>
<th>I don't know</th>
</tr>
</thead>
<tbody>
<tr>
<td>The amount of money I can receive</td>
<td>36.6%</td>
<td>63.4%</td>
</tr>
<tr>
<td>The category of insured person</td>
<td>41.9%</td>
<td>58.1%</td>
</tr>
<tr>
<td>The necessary period of enrollment for pension eligibility</td>
<td>44.6%</td>
<td>55.4%</td>
</tr>
<tr>
<td>Pensionable age</td>
<td>45.2%</td>
<td>54.8%</td>
</tr>
<tr>
<td>The type of my public pension program</td>
<td>63.5%</td>
<td>36.5%</td>
</tr>
</tbody>
</table>
Longevity and Asset Building/Management

1) The impact of extension of longevity (extension of longevity): saving behavior, asset selection, retirement age
2) Income/asset risk (factors of asset depletion/variation): fluctuations in consumer prices/asset prices, review of the social security system (public pension, healthcare/Long-term care expenses), prolongation of asset management, burden on asset management ability
3) Risk of deterioration in cognitive function (prolongation of a period of low cognitive function)
Financial Assets that Grow with Advancing Age and Percentage of Risk Assets

Advancing Age and Total Financial Assets (10,000 yen: left), Percentage of Risk Assets (stocks/bonds, trusts, etc.) (%: right)

Source: Estimates by Komamura’s Laboratory
Aging of “Financial Assets”

Estimates of the Percentage of Financial Assets Owned by Age
Increase in the Percentage of the Elderly in Financial Assets

Data: Estimates by Prof. Komamura based on Household Projection for Japan by the National Institute of Population and Social Research (national projection) (January 2013)
Issues Associated with Lifelong Asset Building

• 1) Time dispersion --> “Do the elderly reduce the weight of risk assets more?”
• 2) Wealth effect --> “With advancing age, financial assets (inheritance, retirement benefit) increase while the weight of risk assets is increased”
• 3) The issue associated with changes in financial literacy (inverted U-shape) with advancing age
• 4) The issue associated with deterioration in cognitive ability with advancing age --> ”Aging behavioral economics”
• 5) Increased uncertainty over public pension (lifetime, indexation) and the social security system
• 6) Lifecycle changes of risks other than financial assets
  • Uncertainty over labor income (wage structure, changes in employment patterns, unemployment risks)
  • Uncertainty over home mortgage, educational spending and expenses
• --> Will “target year funds” be accepted by the young generation? Issues associated with lifelong personal assets building (those associated with financial literacy and behavioral economics “Policy for cooperation between public and private pension programs”)
Financial Literacy Forms an Inverted U-Shape with Age (Peaks in the 60s, and Higher among Men. Young Men are Over-confident)

Compiled based on the Financial Literacy Survey by the Central Council for Financial Services Information, Bank of Japan (2016)
Financial Literacy by Financial Conditions
(Percentage of Questions Answered Correctly by Income Bracket/Financial Asset Level (%))

Compiled based on the Financial Literacy Survey by the Central Council for Financial Services Information, Bank of Japan (2016)
Financial Literacy by Educational Background/Occupation (High Percentage of Questions Answered Correctly among Those with High Educational Background and Public Servants (%))

Compiled based on the *Financial Literacy Survey* by the Central Council for Financial Services Information, Bank of Japan (2016)
Cognitive Function Deteriorates with Age

Execution Performance of Tasks Related to Cognitive Function

Source: Midori Takayama (Changes and adaptations in intellectual functions; gerontology core subject 1: Changes and adaptations in mental and physical functions/life with advancing age)
Cognitive Ability and Asset Management Performance


Source: Kim et al. (2012)

Fig. 1-10 Cognitive Ability (estimate) and Asset Management Performance

Behavioral Economics and Aging (hypothesis)
Consider the Impact of Deterioration in Cognitive Function with Advancing Age on Asset Selection

• 1) Due to the deterioration in cognitive function with advancing age, the elderly make a decision to save their cognitive function more; they thus are more prone to causing a framing effect (decision is influenced by how things are expressed).

• 2) With advancing age it becomes difficult for the elderly to respond to many options and they tend to prefer easy-to-follow information and simple options.

• --> The elderly prefer less options (about half) than young adults.

• 3) The elderly are prone to putting off decision-making and will not regret not having made a choice.

• --> The ownership effect (people don’t want to let go of something they once possessed) becomes stronger.
Behavioral Economics and Aging (hypothesis 2)

• 4) The elderly tend to remember positive emotional events or information and forget negative information.
  --> Influenced more by positive frames than by negative ones.
  --> Issues associated with decision-making and information sharing (Long-term care and inheritance issues) among family members (between parent and child)

• 5) In terms of the temporal axis, they have a perspective of not looking toward the future but looking back on the past.
  --> Delay in decision-making timing (assets/business succession, asset management or vacant house issues)

• 6) Aging and differences between men and women
Behavioral Bias by Age and Gender (%)

Approach from Behavioral Economics

- Loss aversion tendency and horizontally egalitarian behavior are more conspicuous among women in all age brackets.
- Near-sighted behavior is more noticeable among men in nearly all age brackets.
- Whereas loss aversion tendency and horizontally egalitarian behavior slightly decline among both men and women in older age, near-sighted behavior rises (refer to Reference Material 3).

Compiled based on the *Financial Literacy Survey* by the Central Council for Financial Services Information, Bank of Japan (2016)
Implications of Asset Management and the Social Security System in Older Age

1) A “decline” in cognitive function in an aging society represents a “rise in transaction costs” and a “decline in market function”

Modern social and economic activities are designed on the premise of the presence of a certain level of information processing capacity

2) How financial services should be in an aging society

Response to the elderly’s mental and physical changes (psychological fluctuations (instability (including a will)), decline in understanding/memory (financial products and procedures), postponement of decision, decline in transaction capability, etc., and psychological characteristics (at variance with family members in understanding)

Cooperation between finance and healthcare/Long-term care/welfare

Adult guardianship (issues associated with the use situation, property management and physical custody), regional comprehensive care and citizen guardians

Issues over inheritance (conflicts of interest between parent and child or among family members, including changes in cognitive function and psychology)
Trends in Longevity and Changes in Social and Economic Systems

• 1) From the average life span of 80 years to that of 90 years and to that of 100 years
• 2) In terms of the impact of the progress of longevity, attention needs to be paid not only to a numeric increase in the number of the elderly but to a qualitative impact on social and economic systems as well.
• 3) Establishment of the social and economic system that fits into longevity
• 1) Review of various social and economic systems established in the industrial revolution/welfare state era (the age category of schooling, employment and retirement under the 20th century model)
• 2) Establishment of the social and economic system that incorporates changes in intellectual/cognitive function and psychology with age: Policy formulation based on cognitive science, gerontology and social neuroscience
• Revision toward a lifecycle perspective
• Needs for revising an “autonomous individual persona (decision-making, ability to judge)”
• Needs for putting in place new social economic rules, public roles and services (including the social security system) by leveraging the fruit of aging behavioral economics
Reference Material 1: Percentages of Correct Answers by Area in the Financial Literacy 2016

<table>
<thead>
<tr>
<th>Areas of the Financial Literacy Map</th>
<th>Percentage of Correct Answers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family finances management</td>
<td>51.0</td>
</tr>
<tr>
<td>Life design</td>
<td>50.4</td>
</tr>
<tr>
<td>Financial knowledge: The basics of financial transactions</td>
<td>72.9</td>
</tr>
<tr>
<td>Financial knowledge: The basics of finance and economy</td>
<td>48.8</td>
</tr>
<tr>
<td>Financial knowledge: Insurance</td>
<td>52.5</td>
</tr>
<tr>
<td>Financial knowledge: Loans and credits</td>
<td>53.3</td>
</tr>
<tr>
<td>Financial knowledge: Asset building</td>
<td>54.3</td>
</tr>
<tr>
<td>Use of outside knowledge</td>
<td>65.3</td>
</tr>
<tr>
<td>Total</td>
<td>55.6</td>
</tr>
</tbody>
</table>

Attribute-based characteristics are as described below:
1) The percentage of correct answers is the lowest in the age bracket from 18 to 29. With advancing age, it tends to rise (slightly falls in those in their 70s).
2) The percentage of correct answers is relatively low among students and part-timers.
3) With advancing annual incomes and financial assets, it tends to rise.
4) The higher frequency of reading financial/economic information, the higher the percentage of correct answers.
5) Those who have gained experience in financial transactions tend to show higher percentages of correct answers.

In a comparison of the same true or false questions as those used in Japan, the percentage of correct answers was 10% lower in Japan than in the U.S. The percentage of correct answers was below that of the U.S. in any of the categories, such as by question, gender, age bracket and annual income. In terms of behavioral characteristics compared with the U.S., the number of those who feel they are over-indebted was smaller and that of those who have a contingency reserve was larger in Japan.

*In comparison with other countries overseas, you should allow for the fact that circumstances differ in terms of financial products and services, the taxation or educational system when looking at the results.
Reference Material 2: International Comparison of Financial Literacy

International Comparison of True or False Questions Answered Correctly

Compiled based on the Financial Literacy Survey by the Central Council for Financial Services Information, Bank of Japan (2016)
Regarding an investment with an expected rate of return of 5% (refer to Fig. 61), 80% of respondents said “Won’t invest,” showing a strong tendency toward avoiding loss overall. There were many of those who refrain from investing in stocks, investment trusts or foreign currency deposits among those who show a strong tendency toward loss aversion. This tendency was stronger among women than among men.

Near-sighted behavioral bias proved strong among the elderly and men. Horizontally egalitarian behavioral bias proved slightly stronger among young adults and women and the percentage of correct answers among those who had a strong bias for this was low. Among those who had a strong bias for this, many financial troubles occurred and the number of those who feel over-indebted was large.

(Fig. 61) Loss Aversion Tendency <Q6>

When you invest 100 thousand yen, either a profit on gain in price of 20 thousand yen or a loss on decline in price of 10 thousand yen will be generated. What would you do?

(Note) For further details of the three behavioral biases described on this page, refer to the “Importance of Applying Behavioral Economics to Financial Education” (Central Council for Financial Services Information, Bank of Japan).
(Table 62) Near-sighted Behavior and Horizontally Egalitarian Behavior <Q1-3 1-10>

<table>
<thead>
<tr>
<th>Behavioral Bias</th>
<th>Question</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Applicable ← No opinion → Not applicable</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Near-sighted Behavior</td>
<td>On the precondition that you will invariably receive either (1)</td>
<td>30.8</td>
<td>16.3</td>
<td>17.8</td>
<td>12.9</td>
<td>22.2</td>
</tr>
<tr>
<td></td>
<td>100 thousand yen now or (2) 110 thousand yen in a year, you will opt for (1).</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Horizontally Egalitarian Behavior</td>
<td>If there are more than one similar products, more often than not you</td>
<td>3.7</td>
<td>11.3</td>
<td>43.4</td>
<td>22.9</td>
<td>18.7</td>
</tr>
<tr>
<td></td>
<td>buy one that is recommended as the best-selling product rather than the</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>one that you think best.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(Table 64) Characteristics of Those who Have a Strong Behavioral Bias <Q1-3, 1-10, 6, etc.>

<table>
<thead>
<tr>
<th></th>
<th>Percentage of Correct Answers</th>
<th>Percentage of Those who Have Invested in Stock</th>
<th>Percentage of Those who Have Experienced Financial Trouble</th>
<th>Percentage of Those who Have Borrowed from Consumer Loan Companies</th>
<th>Percentage of Those who Feel Over-indebted</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Number of Respondents</td>
<td>55.6</td>
<td>31.6</td>
<td>5.9</td>
<td>3.9</td>
<td>11.4</td>
</tr>
<tr>
<td>Those who Have a Strong Loss Aversion Tendency</td>
<td>52.8</td>
<td>24.0</td>
<td>5.3</td>
<td>3.5</td>
<td>10.7</td>
</tr>
<tr>
<td>Those who Have a Strong Near-sighted Behavioral Bias</td>
<td>56.7</td>
<td>33.3</td>
<td>7.0</td>
<td>5.8</td>
<td>15.6</td>
</tr>
<tr>
<td>Those who Have a Strong Horizontally Egalitarian Behavioral Bias</td>
<td>48.6</td>
<td>34.6</td>
<td>7.0</td>
<td>4.3</td>
<td>18.2</td>
</tr>
</tbody>
</table>
# Reference Material 4: Examples of Financial Literacy Questions

Q21 Answer if the following sentence is correct (one each) [Compulsory Input]

<table>
<thead>
<tr>
<th>Question</th>
<th>Correct</th>
<th>Wrong</th>
<th>Don’t Know</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. In the high inflation phase, the prices of daily necessities and services rise rapidly</td>
<td>60.8</td>
<td>7.6</td>
<td>31.6</td>
</tr>
<tr>
<td>2. If you take out a home mortgage, when comparing the payment period of 15 years with that of 30 years, the amount of monthly payment will be normally larger but the total amount of interest to be paid will be smaller for 15 years.</td>
<td>68.4</td>
<td>5.8</td>
<td>25.8</td>
</tr>
<tr>
<td>3. Investment whose return is higher than the average entails a higher risk than the average.</td>
<td>74.8</td>
<td>2.7</td>
<td>22.5</td>
</tr>
<tr>
<td>4. Buying a stock in a company is a safer investment than buying a stock investment trust (*)</td>
<td>5.2</td>
<td>45.8</td>
<td>49.0</td>
</tr>
</tbody>
</table>

*"A financial product that invests in stocks in several companies"

Excerpts from the *Financial Literacy Survey* by the Central Council for Financial Services Information, Bank of Japan (2016)
Materials/Reference Literature


• The Financial Literacy Survey by the Central Council for Financial Services Information, Bank of Japan (2016)