

Analysis of Old-Age Income Security System in Korea : Policy Implications

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1. Introduction

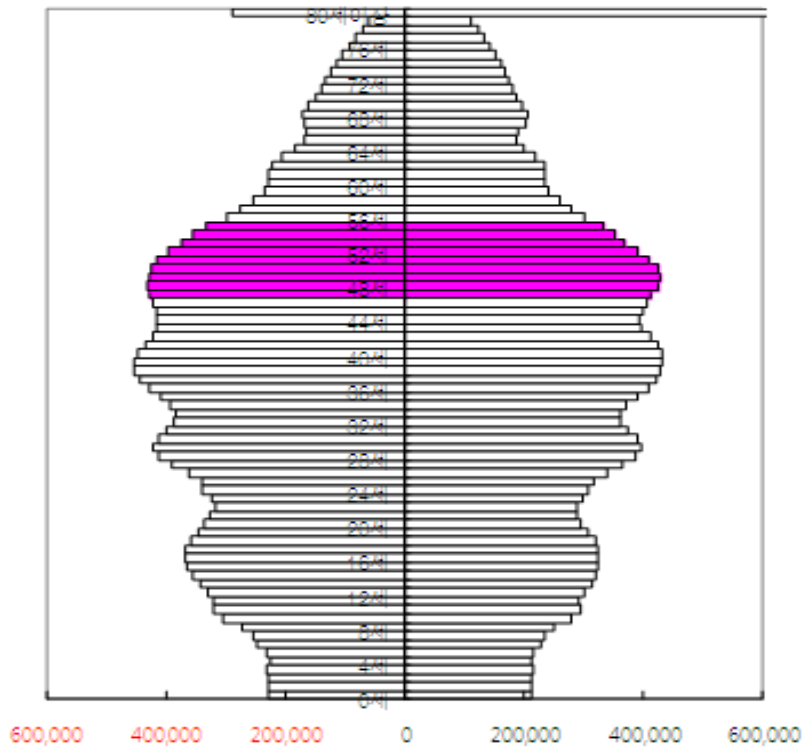
| Population Aging

- **Korea has experienced ever-fast aging of its population along with low fertility rate & increasing life expectancy.**
 - Total Fertility Rate(TFR) was 6 in 1960, but it dropped to 1.2 now. (Average TFR of OECD countries: 1.73 in 2009)
 - Average Life expectancy has increased by 20 years over the last 40 yrs. (61.0 yr in 1970 to 80.6 yr in 2009)
 - The era of Homo Hundred (life expectancy of 100 yr) is expected before the end of this century.

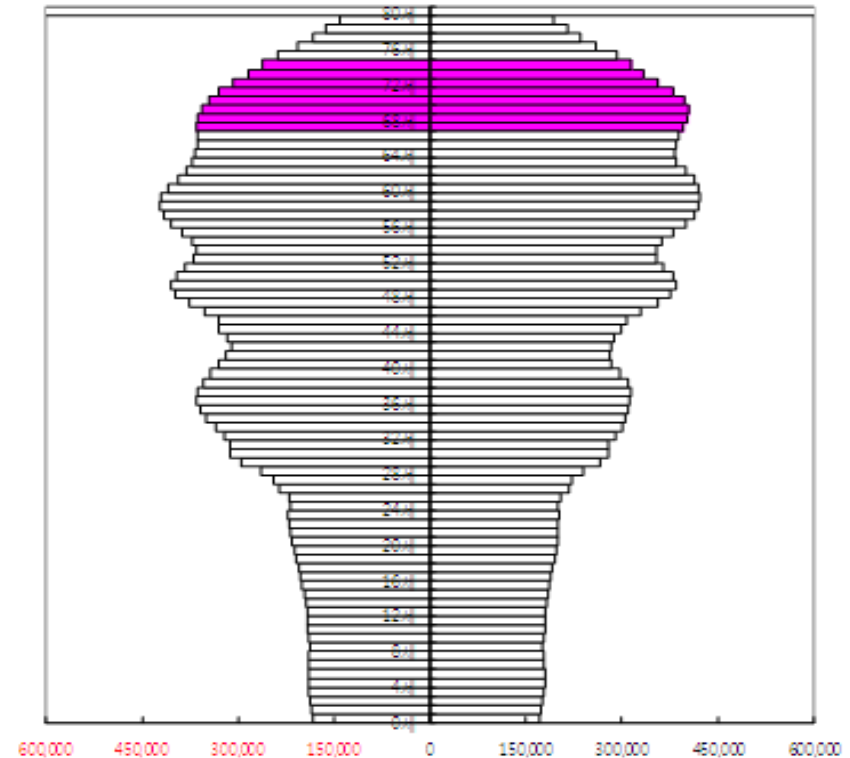
Demographic Structure

□ Projection of Future Population

Year 2010



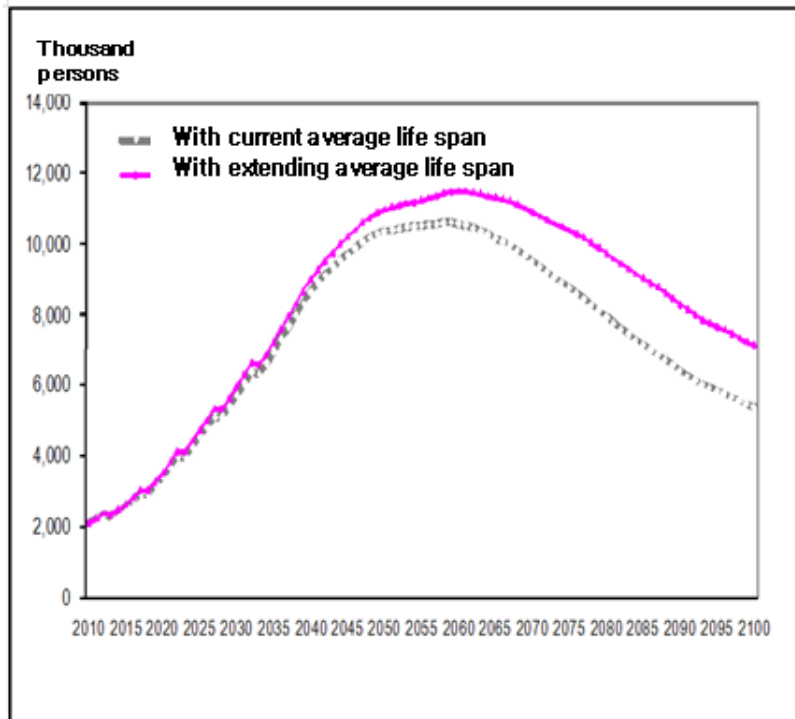
Year 2030



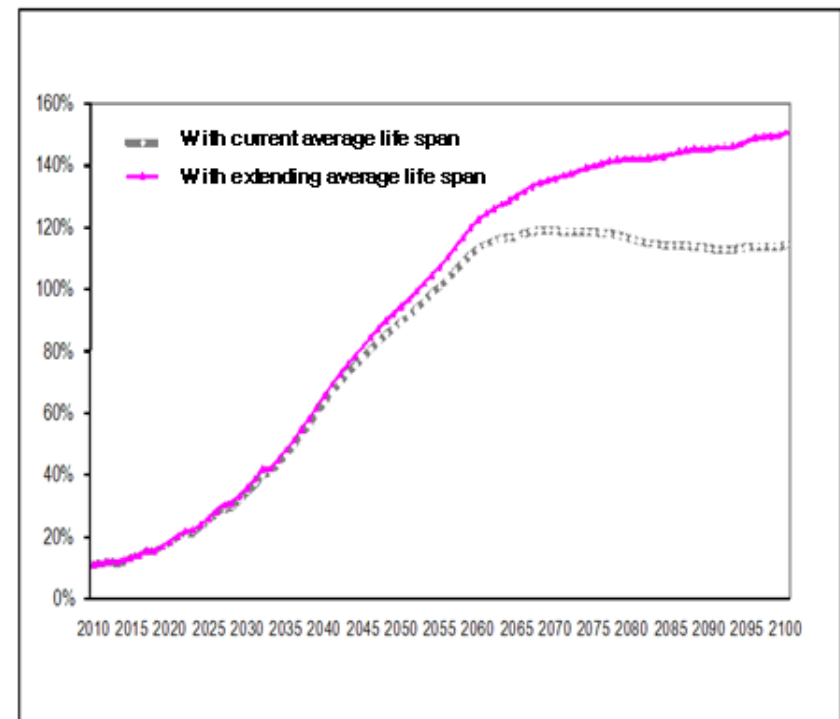
Population Projection

Population Projection within NPS (Total Fertility Rate: 1.28)

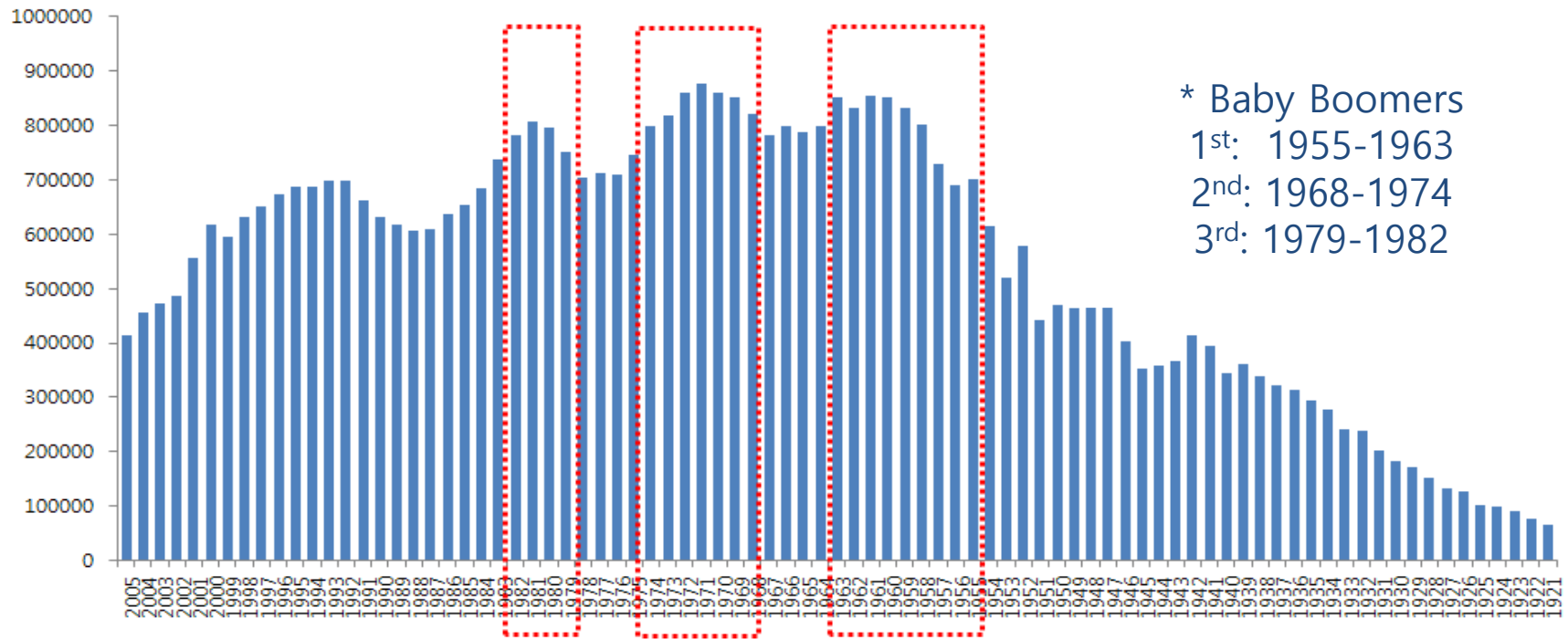
<Number of Pension Recipients>



<Pension Cost compared to GDP>



Demographic Structure & Baby Boomers

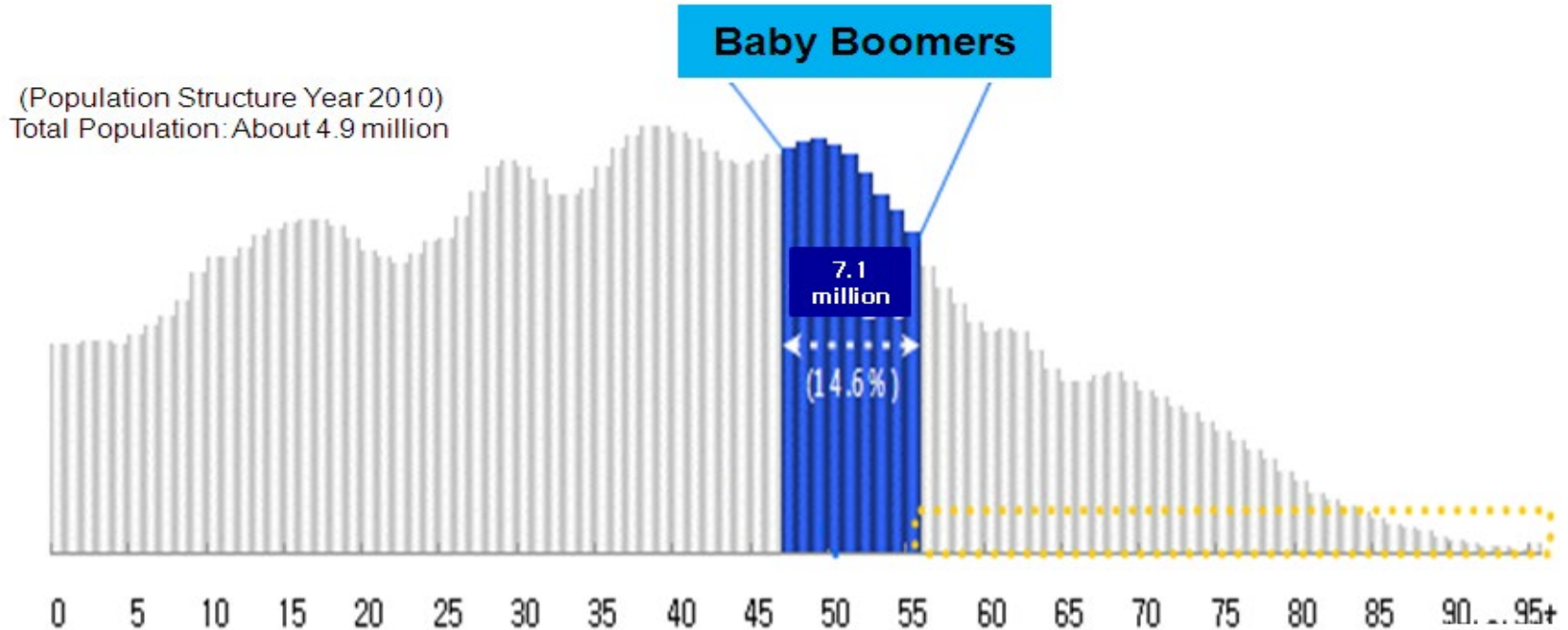


Source: Statistics Korea.

- First baby boomers in Korea are those who were born from 1955 to 1963 & their number is about 7.3 million.

Demographic Structure & Baby Boomers (cont')

□ Population Size of Baby Boomers

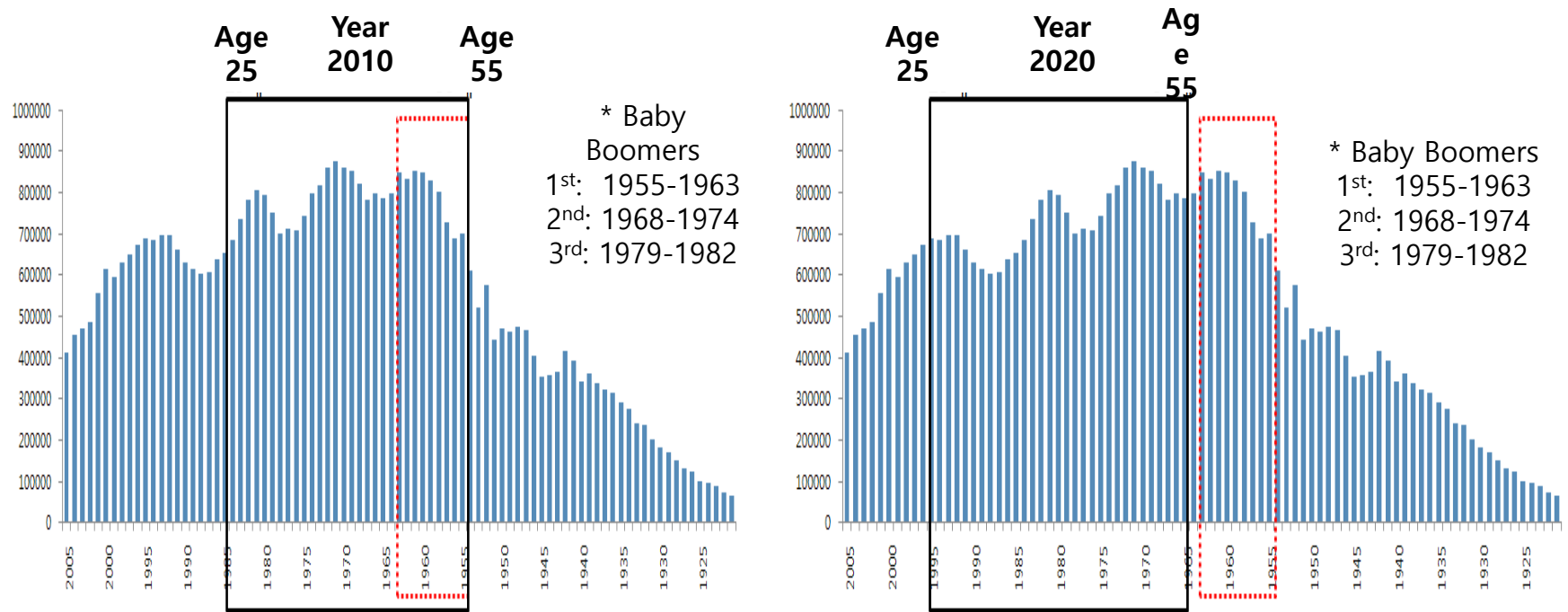


Source: Statistics Korea.

- The size of Baby Boomers is estimated from 7.1 million to 7.6 million depending on the source of statistics.

Demographic Structure & Baby Boomers (Cont')

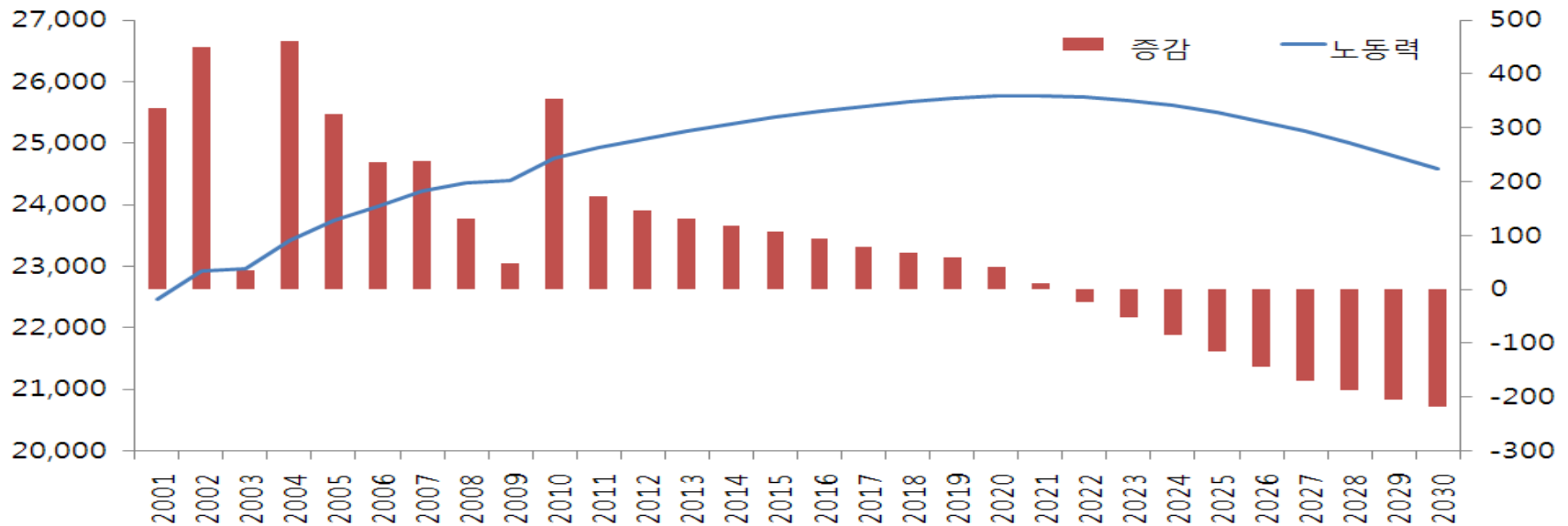
Change in Labor Force Supply (Yr 2010 & 2020)



- The size of the generation (born from 1983 to 1991) entering the labor market when 1st baby boomers retire is quite small. (5.9 million)

Demographic Structure & Baby Boomers (cont')

□ Projection of Economically Active Population



○ Retirement of baby boomers is expected to bring the change in supply & demand in labor force. Shortage of labor force supply will start when baby boomers retire.

- To prevent drastic decline in labor force, there needs immediate interventions with overall labor participation rate & employment rate.

| Old-Age Income Security : Overview

- If the fertility rate remains low, it will lead to the decrease of economically active population placing mounting pressure on the pension schemes, health insurance and welfare services for the elderly.
- In addition, the base of tax revenue will shrink with the decline of child and youth population.
- Along with the demographic change, the potential growth rate of Korea is expected to decline in the future.

| Old-Age Income Security : Overview (Cont')

- Seemingly, Korea has built the multi-pillar old age income system, but it is not working properly to achieve income security after retirement.
- Therefore, there is urgent need to implement policy measures to improve the system.

2. Old Age Income Security System in Korea

| Old-Age Income Security : Overview

- Public Pensions
 - National Pension Scheme (NPS)
 - Special Occupational Pension Schemes (SOPS)
 - Basic Old-age Pension

- Retirement pensions (or allowance)

- Personal pension & saving

Old-Age Income Security : Overview (Cont')

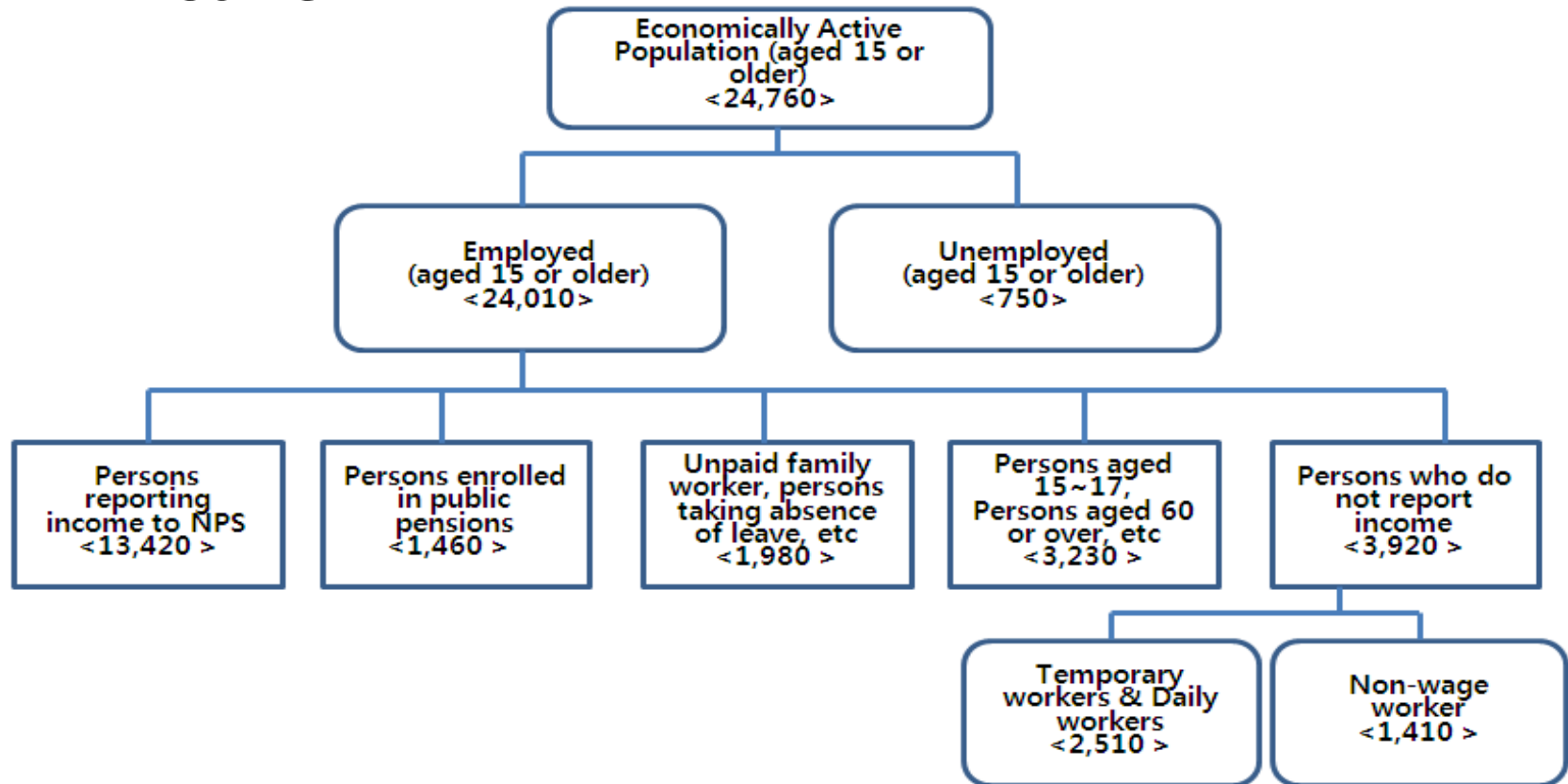
(Unit: person, year)

3rd Pillar	Personal Pensions (1.6 million, 2009)			
2nd pillar	Severance Allowance		Retirement Pension/Allowance (3 million, 2011)	
	Special Occupational Pensions (Approximately 1.5 million)			
1st pillar	National Pension Scheme (NPS) (20.3million, 2013)			
Basic Security (0 pillar)	Basic Old-Age Pension & Disability Pension (70% of the elderly aged 65 or older)			
	National Basic Livelihood Security System(NBLSS) (1.4 million)			
	Employees in public sectors	Employees in private sectors	Self-employed	Economically non-active population

Source: NPS & NBLSS updated as of 2013.

Old-Age Income Security System : Coverage

□ NPS Subscribers Compared to Economically Active

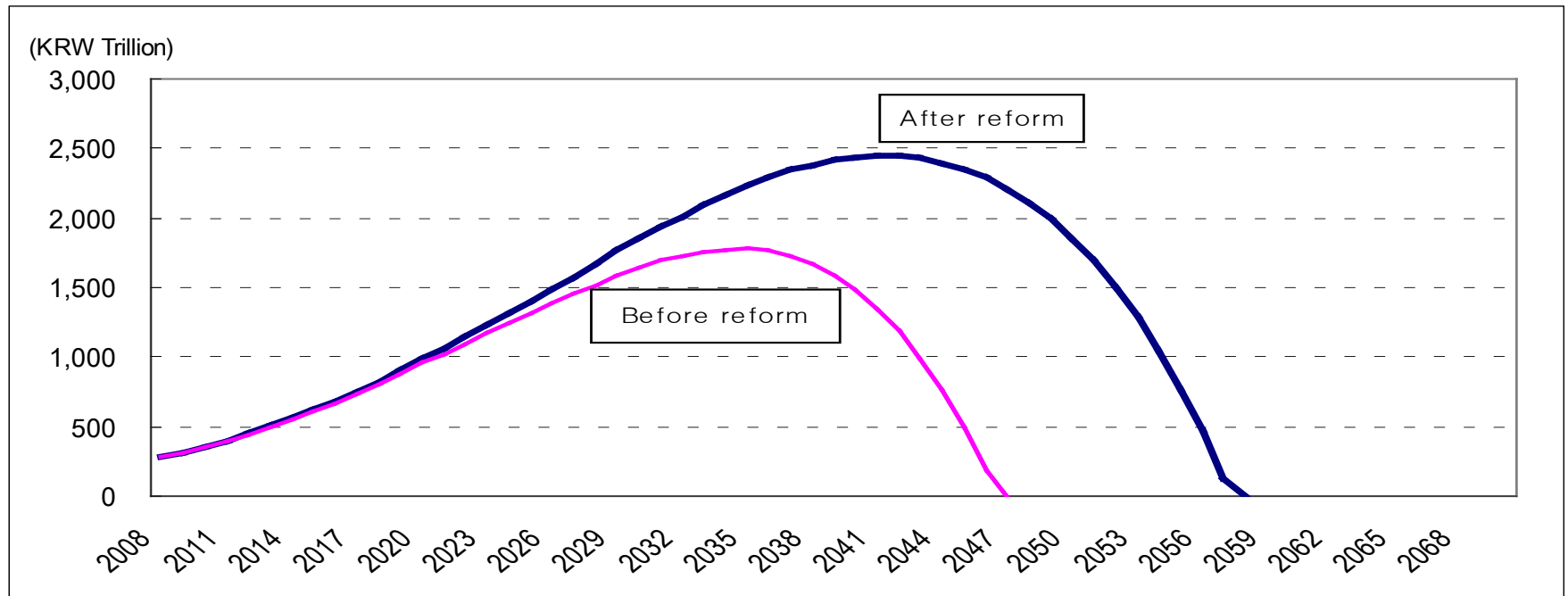


| National Pension Scheme: NPS

- NPS was first introduced for workplaces employing more than ten people in 1988.
- NPS had a coverage expansion to farmers & fishers & to the self-employed in urban areas in 1999.
- In 2010, total 18.7 million people were enrolled in NPS while 13.5 million people were not enrolled in NPS.
- With full 40 years of contributions, the Income Replacement Rate(IRR) is expected to be lowered to 40% by 2028 from 48% in 2012 currently.

3. Old-Age Income Security System in Korea

□ Long-Term Financial Prospects of NPS (Before & After Reform in 2007)



- Before 2007 reform, National Pension Fund was to be exhausted by 2047.
- The reform delays the fund exhaustion to 2060.

| Basic Old-Age Pension

- Old-Age pension was introduced in 2007 to provide the assistance to the elderly aged 65 or older.
- Now, it covers 70% of the elderly, but the benefit amount is only 5% of the average income of beneficiary of NPS.

| Retirement Pension(or Allowance)

- Retirement pension (or allowance) is applied to the workers of workplaces of one or more workers.
- Among 8.7 millions of regular workers, about 30%, 2.7 million were enrolled in retirement pension as of 2011.

| Personal Pension and / or Saving

- Personal pension and / or saving is available to prepare for after-retirement income security.
- It is voluntary to subscribe personal pension & saving & tax exemption is available to encourage the enrollment.

| Overview

- Most advanced countries have developed a multi-pillar system for old-age income security.
- Consequently, the established system made it possible for many people to achieve financially stable retirement.
- Outwardly, Korea has built a multi-pillar income security system.
- However, NPS has a problem of loophole in its application of pension scheme.

| Overview (Cont')

- Considering that current old age income security system in Korea is not working properly, there needs to be thorough review of the current situation to improve the system.
- In this regard, the result of the survey & analysis be useful in the understanding of current old-age income protection policy in Korea.

3. Research Method

| Subject of Analysis & Survey Sample

Subject of Analysis

- Subject of analysis is baby boomers who are expected to retire in the next 10 yrs.
- 3,000 households with a head of household who is from 30 yrs old to 60 yrs old.

Survey Sample

- The survey sample was chosen from 2005 Census using the sampling with probability proportionate to size.
- Total 300 survey areas were sampled & then 10 households from each survey area were sampled by systematic sampling.
(95% confidence level with error value of $\pm 5.8\%$)

| Sample Size Equation

Sample Size Equation

$$n = \frac{\sum_{k=1}^4 N_k^2 p_k a_k / a_k}{N^2 D + \sum_{k=1}^4 p_k a_k}$$

- a_k is percentage of observed value in k tier.
- p_k is percentage of tier $D = B^2/4$ allowable error.

4. Research Result

| National Pension Scheme (NPS) (Cont')

Enrollment Classification in NPS

- Insured persons
 - Contributor
 - Exempted
 - Delinquent
- Not-insured persons

Enrollment Type in NPS

- Workplace-based insured
- Individually insured
- Voluntarily insured/Voluntarily & Continuously insured

NPS Enrollment & Payment Status

(Unit: person, %)

Total 3,027 (100.0)	Total insured 2,719 (89.8)	Payment status	Contributed	1,85 (68.1)
			Exempted	794 (29.2)
			Delinquent	74 (2.7)
		Enrollment type	Workplace-based insured	1,319 (48.5)
			Individually insured	1,394 (51.3)
			Voluntarily insured/ Voluntarily & continuously Insured	6 (0.2)
		Uninsured		

Source: Figures of NPS updated as of 2013.

Enrollment in NPS by Employment Status

(Unit: person, %)

Categories	Insured	Not insured	Total
Regular	1,194 (91.1)	116 ¹⁾ (8.9)	1,310 (100.0)
Temporary	309 (93.1)	23 (6.9)	332 (100.0)
Daily worker	336 (89.8)	38 (10.2)	374 (100.0)
Employer	94 (97.9)	2 (2.1)	96 (100.0)
Self-employed	565 (94.8)	31 (5.2)	596 (100.0)

Note: 1) Full-time employees who are exempt from NPS includes subscriber of Special Occupational Pensions.

Willingness to Pay NPS Cont' s by Employment Status

(Unit: person, %)

Categories	Yes	No	Not applicable	Total
Regular	1,148 (87.6)	162 (12.4)	0	1,310 (100.0)
Temporary	229 (69.0)	94 (28.3)	9 (2.7)	332 (100.0)
Daily worker	177 (47.3)	194 (51.9)	3 (0.8)	374 (100.0)
Employer	89 (91.8)	7 (7.2)	1 (1.0)	97 (100.0)
Self-employed	436 (73.0)	150 (25.1)	11 (1.8)	597 (100.0)

Note: 1) Full-time employees who are exempt from NPS includes subscriber of Special Occupational Pensions.

Willingness to Pay NPS Contributions with Government Subsidy by Employment Status

(Unit: person, %)

Categories	Yes	No	Total
Regular	22 (13.6)	140 (86.4)	162 (100.0)
Temporary	49 (52.1)	45 (47.9)	94 (100.0)
Daily worker	74 (38.1)	120 (61.9)	194 (100.0)
Employer	4 (57.1)	3 (42.9)	7 (100.0)
Self-employed	60 (40.0)	90 (60.0)	150 (100.0)

Note: 1) Full-time employees who are exempt from NPS includes subscriber of Special Occupational Pensions.

Willingness to Pay NPS Cont' s by Enrollment Types & Age When Gov' t Subsidy is Provided

(Unit: person, %)

Categories	Y/N	Age				Total
		30~39	40~49	50~59	60	
Contributor	Yes	9 (56.3)	10 (62.5)	24 (61.5)	0	43 (59.7)
	No	7 (43.7)	6 (37.5)	15 (38.5)	1 (100.0)	29 (40.3)
Exempted	Yes	57 (43.5)	75 (42.6)	28 (21.7)	0	160 (36.5)
	No	74 (56.5)	101 (57.4)	101 (78.3)	2 (100.0)	278 (63.5)
Delinquent	Yes	9 (69.2)	2 (22.2)	2 (66.7)	0	13 (52.0)
	No	4 (30.8)	7 (77.8)	1 (33.3)	0	12 (48.0)
Uninsured	Yes	7 (15.6)	6 (9.0)	5 (6.0)	0	18 (9.2)
	No	38 (84.4)	61 (91.0)	78 (94.0)	0	177 (90.8)

Note: 1) Full-time employees who are exempt from NPS includes subscriber of Special Occupational Pensions.

Average Monthly Amounts for Old-Age Income Preparation by Income Quintiles

(Unit: thousand won)

Age	Fifth					Total
	Lowest	Second	Middle	Fourth	Highest	
Born before 1955	5.33	8.19	10.26	20.03	19.86	11.94
Born b/w 1955 & 1963	3.99	7.99	9.91	14.51	33.32	14.66
Born after 1963	3.55	8.38	14.24	22.11	37.10	17.05

Average Preparation Period for Old-Age Income by Income Quintiles

(Unit: year)

Age	Fifth					Total
	Lowest	Second	Middle	Fourth	Highest	
Born before 1955	8.44	11.87	10.96	17.13	19.05	12.88
Born b/w 1955 & 1963	4.65	8.42	12.30	14.57	19.26	11.98
Born after 1963	3.88	5.89	8.60	11.18	13.02	8.56

Expected Retirement Age by Income Quintiles

(Unit: year)

Age	Fifth					Total
	Lowest	Second	Middle	Fourth	Highest	
Born before 1955	63.35	66.68	64.73	64.18	64.34	64.47
Born b/w 1955 & 1963	62.32	63.44	63.96	63.89	63.39	63.34
Born after 1963	60.90	60.25	61.08	60.29	61.26	60.73

Desired Retirement Age by Income Quintiles

(Unit: year)

Age	Fifth					Total
	Lowest	Second	Middle	Fourth	Highest	
Born before 1955	66.06	68.74	67.33	68.26	66.76	67.28
Born b/w 1955 & 1963	65.25	68.62	68.17	68.08	66.25	67.07
Born after 1963	64.72	65.05	65.53	64.77	65.39	65.11

Enrollment of Personal Pensions by Income Quintiles

(Unit: person, %)

Age	Y/N	Fifth					Total
		Lowest	Second	Middle	Fourth	Highest	
Born before 1955	Yes	22 (19.5)	10 (15.3)	8 (11.4)	23 (30.0)	15 (24.6)	79 (20.2)
	No	93 (80.5)	54 (84.7)	64 (88.6)	54 (70.0)	47 (75.4)	311 (79.8)
Born b/w 1955 & 1963	Yes	21 (9.5)	27 (18.7)	37 (22.2)	51 (27.5)	138 (61.7)	274 (29.0)
	No	204 (90.5)	117 (81.3)	129 (77.8)	135 (72.5)	86 (38.3)	671 (71.0)
Born after 1963	Yes	31 (11.7)	107 (26.8)	108 (28.8)	144 (43.3)	188 (59.2)	578 (34.2)
	No	234 (88.3)	291 (73.2)	267 (71.2)	189 (56.7)	130 (40.8)	1,111 (65.8)

Analysis w/t Focus on Baby Boomers

□ Demographic by Age Group

- Baby boomers born b/w 1955 & 1963 are expected to start retiring for the next 10 yrs, but a quite of few of them are to be exposed to the gap in coverage of social insurance.
- In order to evaluate the current status of the baby boomers in terms of preparation for old-age income security, this study analyzes the old-age income security system by classifying three age groups.
 - baby boomers those who were born b/w 1955 & 1963
 - those who were born before 1955
 - those who were born after 1963

Retirement Preparation of Baby Boomers

(Unit: person, %)

Total 3,027 (100.0)	Total insured 2,719 (89.8)	Payment status	Contributed	1,85 (68.1)
			Exempted	794 (29.2)
			Delinquent	74 (2.7)
	Enrollment type		Workplace-based insured	1,319 (48.5)
			Individually insured	1,394 (51.3)
			Voluntarily insured/ Voluntarily & continuously insured	6 (0.2)
			Uninsured	308 (10.2)

Source: Yun (2011), Survey & Analysis of Multi-pillar Old-age Income Security System in Korea.

Retirement Preparation of Baby Boomers (Cont')

□ Enrollment in NPS by Employment Status

(Unit: person, %)

Categories	Insured	Not insured	Total
Regular	1,194 (91.1)	116 ¹⁾ (8.9)	1,310 (100.0)
Temporary	309 (93.1)	23 (6.9)	332 (100.0)
Daily worker	336 (89.8)	38 (10.2)	374 (100.0)
Employer	94 (97.9)	2 (2.1)	96 (100.0)
Self-employed	565 (94.8)	31 (5.2)	596 (100.0)

Note: 1) Full-time employees who are exempt from NPS includes subscriber of SOP.

Source: *Ibid.*

- Majority is enrolled in NPS. Those who are not enrolled in NPS, especially daily workers, may not benefit from NPS although they participate in economic activity.

Retirement Preparation of Baby Boomers

□ Enrollment in National Pension Scheme

(Unit: person, %)

Age	Enrolled	Not enrolled	Total
Born before 1955	309 (79.0)	82 (21.0)	391 (100.0)
Born b/w 1955 & 1963	840 (88.8)	106 (11.2)	946 (100.0)
Born after 1963	1,568 (92.8)	121 (7.2)	1,689 (100.0)

Source: *Ibid.*

Retirement Preparation of Baby Boomers

□ Enrollment Categories

(Unit: person, %)

Age	Workplace based	Individually insured	Voluntarily insured	Total
Born before 1955	118 (38.3)	185 (60.1)	5 (1.6)	308 (100.0)
Born b/w 1955 & 1963	355 (42.3)	484 (57.6)	1 (0.1)	840 (100.0)
Born after 1963	844 (53.8)	724 (46.2)	0	1,568 (100.0)

Source: *Ibid.*

- Among baby boomers, there are more individually insured persons (57.6%) than workplace based insured persons. (42.3%)

Retirement Preparation of Baby Boomers

□ Average Contributing Period by Income Quintile

(Unit: year)

Age	Fifth					Total
	Lowest	Second	Middle	Fourth	Highest	
Born before 1955	9.74	11.78	10.81	13.37	17.19	12.04
Born b/w 1955 & 1963	4.87	8.52	11.96	14.20	18.38	11.77
Born after 1963	3.48	5.50	8.39	11.02	12.54	8.19

Source: *Ibid.*

- Highest Fifth has longer contributing period than lower income groups.

Retirement Preparation of Baby Boomers

□ Average Contributions by Generations & Income Quintile

(Unit: 10,000 won)

Age	Fifth					Total
	Lowest	Second	Middle	Fourth	Highest	
Born before 1955	5.00	7.14	6.58	8.64	14.71	7.74
Born b/w 1955 & 1963	2.33	5.23	6.82	9.73	15.39	8.11
Born after 1963	2.07	3.70	7.47	11.36	14.18	7.70

Source: *Ibid.*

- Among baby boomers, highest Fifth pay about 7 times of what the lowest Fifth pay.

Retirement Preparation of Baby Boomers

□ Baby Boomers' Enrollment of Personal Pensions by Income Quintile

(Unit: persons, %)

	Fifth					Total
	Lowest	Second	Middle	Fourth	Highest	
Yes	21 (9.5)	27 (18.7)	37 (22.2)	51 (27.5)	138 (61.7)	274 (29.0)
No	204 (90.5)	117 (81.3)	129 (77.8)	135 (72.5)	86 (38.3)	671 (71.0)

Source: *Ibid.*

- Only 29% of baby boomers have personal pensions.
- There is a huge difference in enrollment rate of personal pensions according to income level.

Retirement Preparation of Baby Boomers

□ Baby Boomers' Enrollment in Retirement Pension by Income Quintile

(Unit: persons, %)

	Fifth					Total
	Lowest	Second	Middle	Fourth	Highest	
Yes	1 (0.3)	4 (2.6)	10 (6.2)	18 (10.0)	29 (13.4)	60 (7.3)
No	85 (62.3)	85 (61.1)	69 (44.8)	80 (45.5)	86 (39.5)	405 (49.2)
Not applicable	51 (37.3)	50 (36.3)	76 (49.1)	78 (44.5)	103 (47.1)	358 (43.5)

Source: *Ibid.*

- Enrollment rate in retirement pension is very low (7.3%) among baby boomers.

Retirement Preparation of Baby Boomers

□ Baby Boomers' Preparation for Old-Age Income by Income Quintile

(Unit: persons, %)

	Fifth					Total
	Lowest	Second	Middle	Fourth	Highest	
Yes	69 (30.6)	93 (64.6)	124 (75.0)	166 (89.2)	217 (97.1)	670 (70.8)
No	157 (69.4)	51 (35.4)	41 (25.0)	20 (10.8)	7 (2.9)	276 (29.2)

Source: *Ibid.*

- About 70% of baby boomers are preparing for their old-age, but there is great difference according to income level.

Retirement Preparation of Baby Boomers

Expected Retirement Age by Income Quintile

(Unit: year)

	Fifth					Total
	Lowest	Second	Middle	Fourth	Highest	
Born before 1955	63.35	66.68	64.73	64.18	64.34	64.47
Born b/w 1955 & 1963	62.32	63.44	63.96	63.89	63.39	63.34
Born after 1963	60.90	60.25	61.08	60.29	61.26	60.73

Source: *Ibid.*

Retirement Preparation of Baby Boomers

□ Desired Retirement Age by Income Quintile

(Unit: year)

	Fifth					Total
	Lowest	Second	Middle	Fourth	Highest	
Born before 1955	66.06	68.74	67.33	68.26	66.76	67.28
Born b/w 1955 & 1963	65.25	68.62	68.17	68.08	66.25	67.07
Born after 1963	64.72	65.05	65.53	64.77	65.39	65.11

Source: *Ibid.*

○ Desired retirement age is higher than expected retirement age in all generations.

5. Summary & Policy Implications

Summary

There have been issues raised on the sustainability of public pension due to financial instability of the schemes as well as low fertility & aging population.

It is necessary to establish the multi-pillar old-age income security system, which has retirement pension by employers & personal pension in addition to public pensions.

This research analyses on the preparation for the old-age income by generation & especially focuses on the baby boomers.

Summary (Cont')

More than 68% of all generations are preparing for old-age, but there are significant differences by income level.

Although there are differences in the level of preparation for old-age income by income quintiles, there seems to be not much difference in the perception of preparation for old-age among the different income groups.

Enrollment in retirement pensions & personal pensions of baby boomers indicates that retirement pensions & personal pension have not been considered as major measures of old-age income security.

Policy Implications

Based on the results of the analysis, there needs to be different measures tailored to each age or income group.

In particular, it is significant to implement a measure of subsidizing contributions of NPS for the working poor(especially individually insured).

It is desirable that government provide selective support to the vulnerables rather than provide universal support.

| Policy Implications : Active Aging

□ Live Longer, Work Longer

- Increasing life expectancy requires **Active Aging** which involve extending working period through **gradual retirement**.
 - Retirement from main jobs of life no longer means leaving from labor market.

- How to make people work longer?
 - Supporting to extend work period in main jobs by reducing working hrs following reduced productivity (salary peak)
 - Encouraging change of career when retire from main jobs (job reeducation)
 - Promoting to start a new business with young generation

Thank you.