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Pension Systems for Public Sector Employees in the Republic of Korea

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Introduction

- As the first public pension in Korea, the Government Employees Pension System (GEPS) was implemented in 1960.
- The system has been part of an integrated pay, benefits and allowance system to recruit, retain, motivate and ensure a competitive and vigorous working force.

→ Under this context, the benefit level of the GEPS remained relatively generous as a way to compensate the low wage and unfavorable working conditions of government employees during their service.

- The system's financial situation had been relatively stable for the first thirty-five years.

→ However, from the late 1990s, as the system matured it began to run into financial difficulties.

→ At the root of the turmoil there were a number of factors, including; 1) generous benefit level, 2) a large number of retirees, and 3) extended life-span

- In response, the government set out a series of reform beginning in the mid-1990s (1995, 2000).

→ The recent reform was implemented on December 31, 2009.

- In this paper, we try to provide a comprehensive understanding on the 2009 reform, rationalizing on the resulting effects, its limitation and tasks ahead.

→ first, upon the preliminary comments on the structure of public pension system in Korea, the paper presents the history and design features of the pension schemes for public sector employees

→ second, it provides detailed aspects of the reform such as key issues, reform process and resulting pension structure

→ then, as a primary concern, it examines the effects of the 2009 reform from two different perspectives; financial evaluation in macro perspective and individual equity evaluation in micro perspective

→ finally, we will try to evaluate the 2009 reform of the GEPS as a whole, and then to address its limitation and tasks ahead

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Structure of Public Pension System in Korea (1)

- Following Kwon and Kwak (2006), the typical structure of public pension system comprises of the following three types;

→ *First, the same pension system for the public and private sectors*

→ *Second, separated public and private sector pension system*

→ *Third, integrated pension schemes for the public and private sectors but with separate top up pension system*

- Korean public pension system belongs to the second type.

Structure of Public Pension System in Korea

National Pension System (NPS)	Government Employee Pension System (GEPS)	Military Pension System (MPS)	Private School Teachers Pension System (PSTPS)
Private Sector	Public Sector		

Source: Song (2010)

Structure of Public Pension System in Korea (2)

Overview of Public Pension System in Korea, 2009

Category	Occupational Pension Schemes			National Pension (NPS)
	Government Employees Pension (GEPS)	Military Pension (MPS)	Private School Teachers Pension (PSTPS)	
year of inception	1960	1963	1975	1988
coverage	government employees public school teacher	military personnel	private school teacher	general public (18 ~ 60 years of age), * except for the coverage of occupational pensions
active participants (in thousand)	1,050	166	262	18,720
pensioners (in thousand)	293	73	28	2,560
dependency ratio	27.9%	44.0%	10.7%	13.7%

Evolution of Public Employees Pensions

- The Government Employees Pension System (GEPS) was implemented in January 1, 1960, as the first public pension in Korea.

→ The early scheme covered military members, in addition to government employees and public school teachers.

→ In 1963, military members have been separated and put into the Military Pension System (MPS).

- An early sign of financial difficulty surfaced in 1995 when it ran into its first deficit, and the strain was further aggravated in 1998 when large-scale layoffs occurred during the Asian economic crisis.
- The strain is mainly due to aging demography and generous benefit given out.

Features of the GEPS before the 2009 Reform (1)

- The major benefits of the GEPS are *Retirement Benefits* and *Survivors' Benefits*, determined by DB formula.
- The accrual rate of the Retirement Benefits is 2.5 percent of final three years average basic salary for the first 20 years of service and 2 percent for each additional year.
- 20-year service entitles eligibility for pension benefits.
- The maximum service year and replacement rate are 33 years and 76% of *final three years average basic salary,* respectively.
- The minimum retirement age (MRA) was set at 60 or at the time of normal retirement, which varies with the type of employee.
- Reduced Benefit is provided with 5 percent reduction for each year up to 5 years.
- Survivors' Benefits are 70 percent of Retirement Benefits.

Features of the GEPS before the 2009 Reform (2)

- The system is financed by contributions from employees and the government (8.5% of basic salary, respectively).

→ The basic salary is approximately 65 percent of taxable gross wage.

- In addition, whenever pension deficit occurs, it is to be subsidized by the government's general budget. (2000 Amendment)

→ That is, the GEPS has operated on a largely pay-as-you-go basis, only with a small sum of contingency fund

- The Ministry of Public Administration and Security (MOPAS) supervises the system in overall.

→ The Government Employees Pension Service (GEPSRV) handles the administrative functions of the GEPS.

- At the end of 2009, the GEPS is comprised of approximately 1,050,000 active participants and 293,000 pensioners.
- Total expenditure paid in 2009 was 6.75 trillion won. Total income received was 4.84 trillion won. The annual deficit was 1.90 trillion won.

⇒ see 'Benefit Structure of the GEPS after the Reform' for more details.

Note: Summary Features of the MPS

(As of December 2009)

Category	Feature
year of inception	1963 (prior to 1963, covered under the GEPS
contribution rate	8.5% of basic salary
benefits formula	same as the GEPS before the 2009 reform
payment condition	same as the GEPS before the 2009 reform (except for the MRA)
minimum retirement age (MRA)	at the time of normal retirement
financing	pay-as-you-go (PAYG) (with a small sum of contingency fund)
administration	Ministry of Defense (MOD)
active participants	166,269
pensioners	72,905
dependency ratio	44%
financial status	income: 2.06 trillion Won expenditure: 1.12 trillion Won deficit: 0.94 trillion Won (subsidized by the government's general budget)

Financial Status before the 2009 Reform (1)

Demographic and Financial Status of the GEPS

Year	Participant (a)	Pen-Sioner (b)	Depen-dency Ratio (b/a)	Revenue (billion won) (c)	Expenditure (billion won) (d)	Balance (billion won) (c-d)
1990	843,262	25,121	3.0%	797.3	723.6	73.7
1994	948,151	47,622	5.0%	1,752.0	1,935.1	-183.1
1998	952,154	88,723	9.3%	3,316.4	5,069.8	-1,753.4
2002	930,835	168,506	18.1%	3,429.6	3,052.0	377.6
2006	1,009,145	233,737	23.2%	4,407.6	5,055.3	-647.7
2008	1,030,256	276,829	26.9%	4,860.5	6,289.9	-1,429.4
2009	1,047,897	289,996	27.8%	4,843.9	6,746.7	-1,902.8

Source: The GEPS Statistical Yearbook (2009)

Demographic and Financial Prospects of the GEPS

(As of January 2010, Won in billions)

Year	Dependency Ratio	Revenue (a)	Expenditure (b)	balance (a-b)	Income Rate	Cost Rate	Deficit(Subsidy) Rate
2011	30.67	5,350.1	7,858.7	-2,508.6	10.86%	17.16%	6.30%
2015	38.86	6,155.0	11,682.4	-5,527.4	10.64%	20.99%	10.35%
2020	50.21	7,411.4	17,379.5	-9,968.1	10.80%	25.59%	14.79%
2030	71.23	10,185.9	33,596.2	-23,410.3	11.05%	35.71%	24.66%
2040	88.12	14,083.0	53,028.6	-38,945.6	11.39%	41.38%	29.99%
2050	99.35	18,447.6	73,067.0	-54,619.4	11.52%	43.80%	32.28%
2060	106.35	22,992.7	98,624.9	-75,632.2	11.41%	47.42%	36.01%
2070	108.18	29,513.7	124,747.8	-95,234.1	11.46%	47.47%	36.02%

Financial Status before the 2009 Reform (2)

- Even with the 2000 reform, the financial condition of the GEPS was still far from being sound.
- A dependency ratio, expressed as the ratio of the number of pensioners relative to the number of active members, will rise from 30.7 in 2011 to 108.2 in 2070.

→ This rise reflects the rapid aging of the population

- A deficit rate, expressed as the ratio of pension deficit relative to payroll, is projected to rise from 6.3 percent in 2011 to 36.0 percent in 2070.

→ This rise is emanated from the structural imbalance between benefits and contributions in addition to the population aging.

- Consequently, the annual deficits of expenditure over income are expected to rise exponentially.

→ Many began to worry that the burden might exceed the affordable range of the government budget.

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Reform Issues

- First, fiscal pressures were clearly the major driver of the reform.

→ In 2009, the government spent 4.4 percent of payroll for the deficit but this number will continue to grow to 36 percent in the long-term.

→ The Korean government began to look at the financial issue not just from a singular programmatic perspective but from an overall budgetary perspective.

- Second, the pension system was still expected to provide adequate benefits.

→ The government had a rationale to provide an adequate level of pension benefits in order to recruit, retain, motivate and ensure a competitive and vigorous working force.

- Third, after the 2007 reform of National Pension, there was a considerable demand to harmonize pension systems between the public and private sectors.

→ However, the harmonization process turned out to complicate the management of the systems because of the coexistence of different formulae (OECD, 2005).

Reform Process (2006~2009)

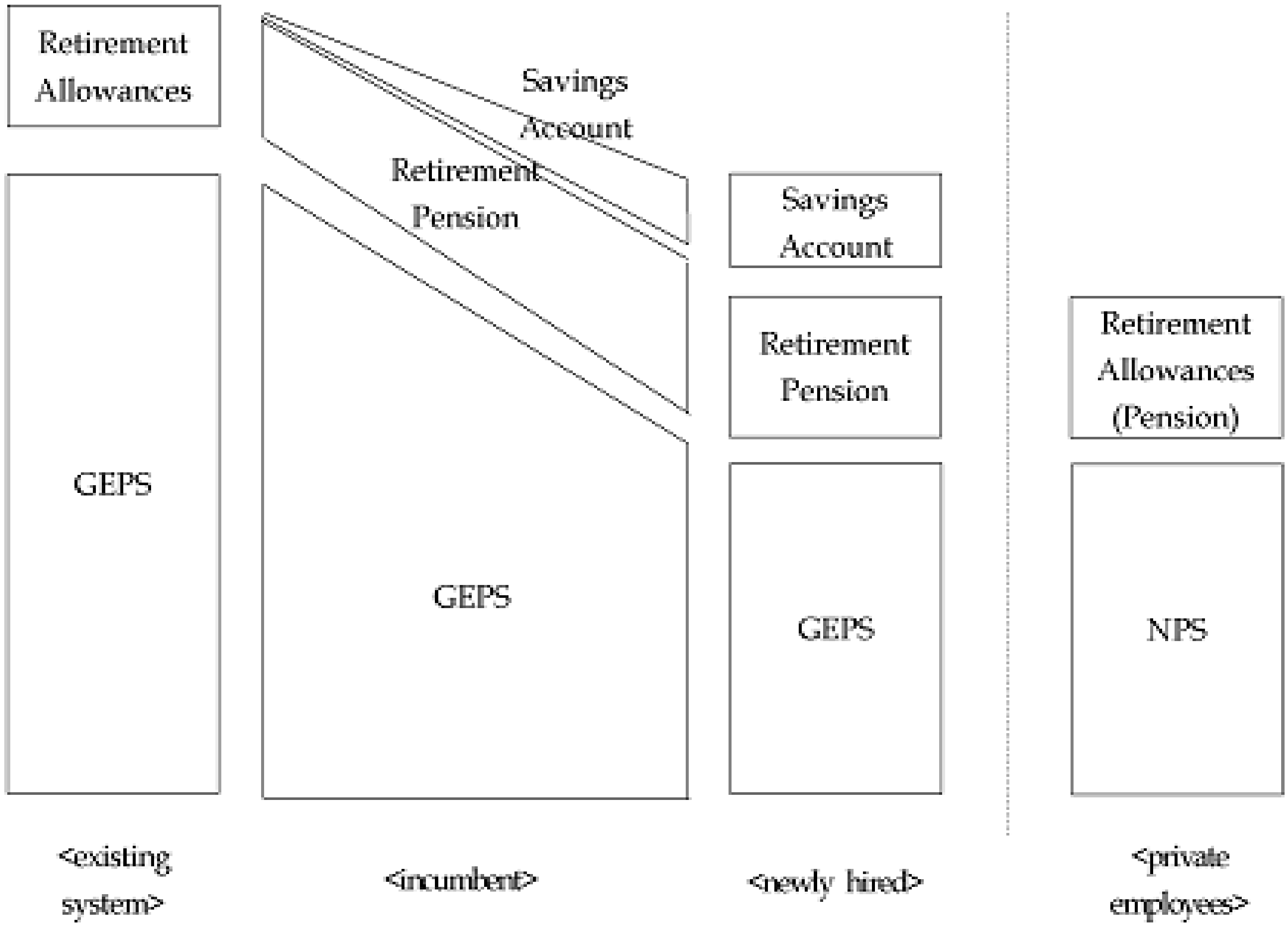
- In May 2006, the government commissioned Korea Development Institute to draft a reform proposal (see paper for more details).
- In July 2006, a Reform Committee was established and in April 2007, the Committee submitted a proposal which was to convert the one-tier DB system into multi-tier system (see Figure below).

→ However, the proposal failed to meet the wide range of competing expectations.

→ Lesson: A consensus of the union members and pensioners was almost a prerequisite for a successful reform.

- In September 2008, the Committee re-convened for the second term and, this time, proposed a parametric reform, focusing on a compromise among various interest groups which was finally passed on November 31st, 2009.
- It took almost four long years to finalize the compromised version of the pension reform.

Note: Framework of Reform Proposal in 2007



Features of the GEPS after the Reform (1)

Changing the income base for pension calculation from basic salary (BS) to a taxable gross wage

→ The basic salary is approximately 65 percent of taxable gross wage

- extending pensionable income from final 3 years average basic salary to entire average gross wage
- raising the contribution rate from 5.525% of gross wage to 7%
- reducing the annual rate from 2.1 percent of career average gross wage to 1.9 percent
- shifting pension indexation from combination of price and wage into price only
- applying the minimum retirement age (MRA) to 65 (for the newly appointed only)
- reducing the level of Survivors Benefits from 70% of Retirement Benefits to 60% (for the newly appointed only)
- applying the ceiling of pension benefits and income base for contribution as 1.8 times of average wage for all members

Features of the GEPS after the Reform (2)

Benefits Structure of the GEPS after the 2009 Reform

Category	Before the Reform	After the Reform	
income base	basic salary (BS) 65% of gross wage	gross wage (GW) * ceiling: 1.8 times of average wage for all members	
formula of retirement benefits	(2% × n)+10% * n: years of service	1.9%× n * n: years of service	
maximum contribution years	33 years	33 years	
contribution rate	5.525% of gross wage	6.3%('10) → 6.7%('11) → 7.0% ('12~)	
pension base	final-3 year average of basic salary	career average of gross wage	
minimum retirement age	60 or at the time of normal retirement	CE	60
		NE	65
cost-of-living increases	CPI + Wage	CPI	
minimum service years	20	20	
survivors' pension	70% of retirement pension	CE	70%
		NE	60%

Note: CE for the incumbent, NE for the newly appointed

Source : Song(2010)

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Financial Evaluation: Macro-perspective (1)

Financial Prospect of the GEPS after the Reform

(As of January 2010, Won in billions)

Year	Revenue			Expenditure			Deficit		
	Before (a)	After (b)	Change (b-a)	Before (a)	After (b)	Change (b-a)	Before (a)	After (b)	Change (b-a)
2011	5,350.1	6,427.7	1,077.6	7,858.7	7,603.0	-255.0	2,508.6	1,175.3	-1,333.3
2015	6,155.0	7,774.7	1,619.7	11,682.4	11,380.9	-301.5	5,527.4	3,606.2	-1,921.2
2020	7,411.4	9,373.4	1,962.0	17,379.5	17,018.5	-361.0	9,968.1	7,645.1	-2,323.0
2030	10,185.9	12,888.2	2,702.3	33,596.2	31,526.5	-2,069.7	23,410.3	18,638.3	-4,772.0
2040	14,083.0	17,822.6	3,739.6	53,028.6	45,653.6	-7,375.0	38,945.6	27,831.0	-11,114.6
2050	18,447.6	23,348.9	4,901.3	73,067.0	53,325.5	-19,741.5	54,619.4	29,976.6	-24,642.8
2060	22,992.7	29,103.9	6,111.2	98,624.9	70,688.4	-27,936.5	75,632.2	41,584.5	-34,047.7
2070	29,513.7	37,361.9	7,848.2	124,747.8	92,750.8	-31,997.0	95,234.1	55,388.9	-39,845.2

Financial Evaluation: Macro-perspective (2)

Demographic and Financial Prospects of the GEPS after the 2009 Reform

Year	Dependency Ratio		Deficit Rate	
	Before	After	Before	After
2011	30.67	30.71	6.30%	4.00%
2020	50.21	50.35	14.79%	11.42%
2040	88.12	86.36	29.99%	20.70%
2070	108.18	95.17	36.02%	17.72%

→ Dependency ratio: The ratio of the number of pensioners relative to the number of active members
→ Deficit rate: The ratio of pension deficit to the taxable payroll

Financial Evaluation: Macro-perspective (3)

- The pattern of dependent ratio is divided in two stages.

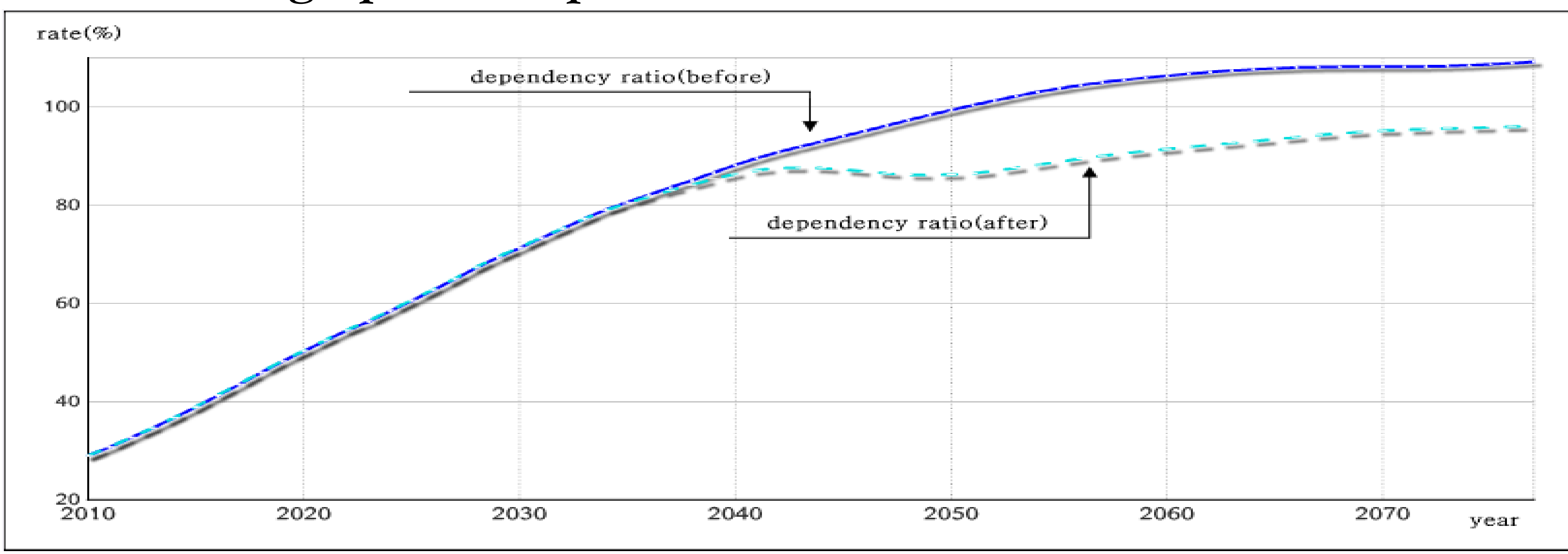
→ At the first stage, between 2010 and 2040, the ratio remains unchanged.

→ At the second stage, between 2040 and 2070, it sharply falls.

- This is because the MRA was set at dual basis.

→ For the incumbents, the previous term (age 60) was maintained and for the newly appointed the age was set at 65.

Demographic Prospect of the GEPS after the 2009 Reform



Financial Evaluation: Macro-perspective (4)

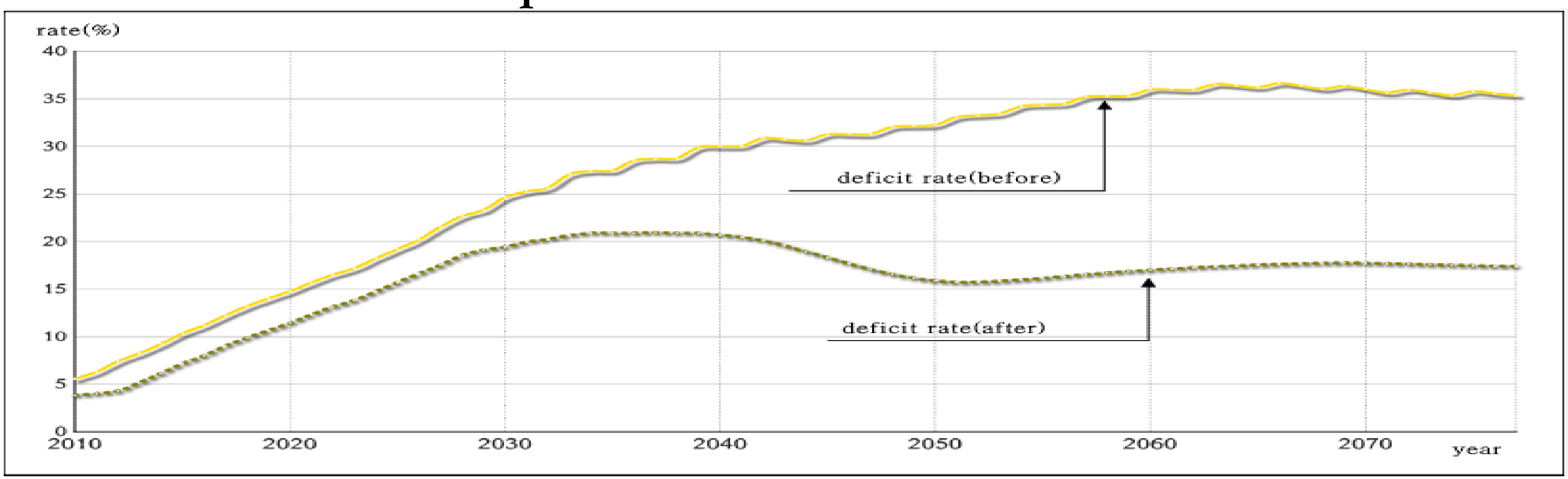
- The deficit rate is expected to fall in two stages, as well.

→ Between 2010 and 2040, the magnitude of the fall is relatively small because only the contribution increase may have an effect.

→ Between 2040 and 2070, the magnitude of the fall sharply increases because the reform would have a decisive effect on the balance as the newly appointed begin to retire.

- For 2070, the deficit (subsidy) rate falls from over 36 percent to less than 18 percent.

Financial Prospect of the GEPS after the 2009 Reform



Equity Evaluation: Micro-perspective (1)

- The simulations are conducted for 30-year insured *hypothetical male* with average earnings but differing in the year of appointment (1990, 2000, 2009, 2010).
- Various measures are applied such as net benefit (**NB**), money's worth ratio (**MWR**) and rate of lifetime income gap (**RLIG**).

→ **NB** : Difference between benefits and contribution.

→ **MWR**: The ratio of present value of expected benefits to present value of expected contribution for an individual

⇒ A value of greater than one implies that an individual experiences financial gain in the presence of pension system.

→ **RLIG**: The ratio of lifetime income gap between public sector worker and private sector worker to private sector's lifetime income.

⇒ A positive value implies that the public sector dominates over the private sector from a lifetime income perspective.

Note: Equity Estimates by Year of Appointment

(30 Years Service, Present value as of January 2010, thousand Won)

Appointment Year	Equity Measure	Before the Reform (a)	After the Reform (b)	Change (b-a)/a
1990 (10 yrs service after reform)	Net Benefits	481,164	430,526	-10.53%
	MWR	4.3	3.7	-13.95%
2000 (20 yrs service after reform)	Net Benefits	475,199	400,379	-15.75
	MWR	4.3	3.3	-23.26%
2009 (29 yrs service after reform)	Net Benefits	408,183	327,191	-19.84%
	MWR	3.8	2.8	-26.32%
2010 (newly ensured)	Net Benefits	448,118	244,717	-45.39%
	MWR	4.1	2.3	-43.90%

Equity Evaluation: Micro-perspective (2)

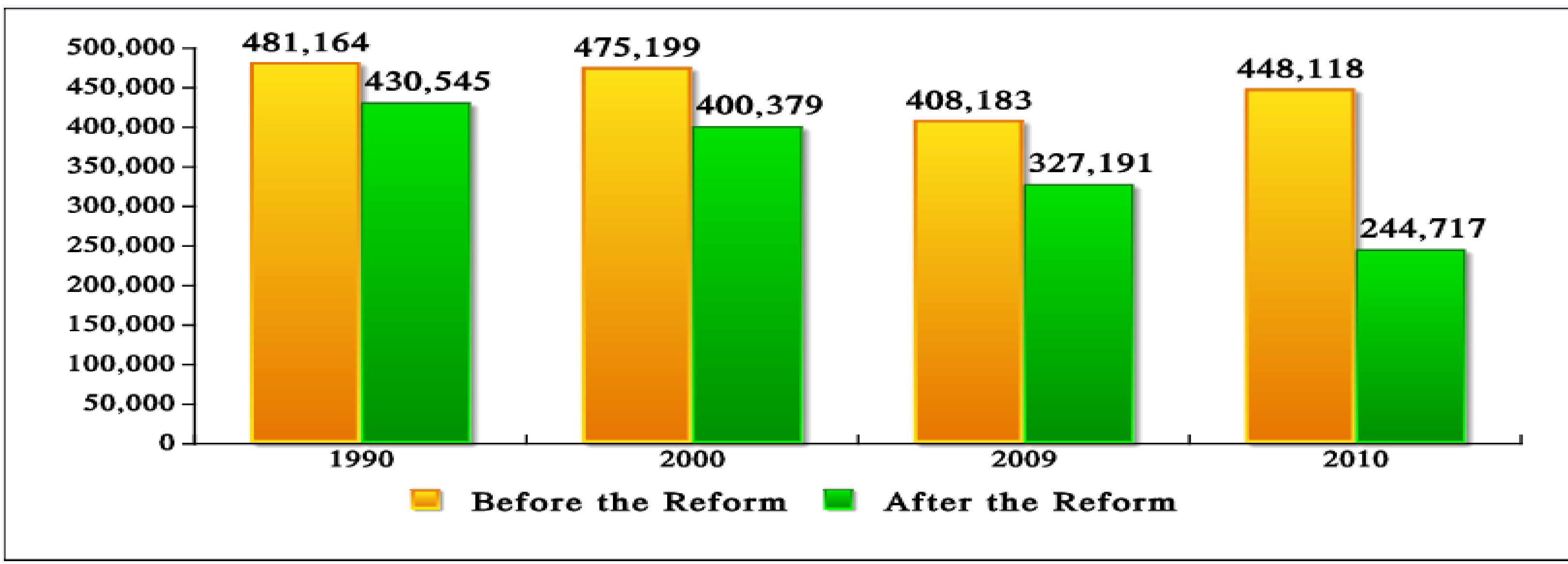
- The net benefits (**NB**) are reduced, but with different magnitude.

→ The reduction of the NB is much greater for the later appointed worker.

→ 10.53% in 1990, 15.75% in 2000, **19.84**% in 2009, and **45.39**% in 2010

Comparison of the Net Benefits by Year of Employment

(30 Years of Service, Present value as of January 2010, Won in in thousands)



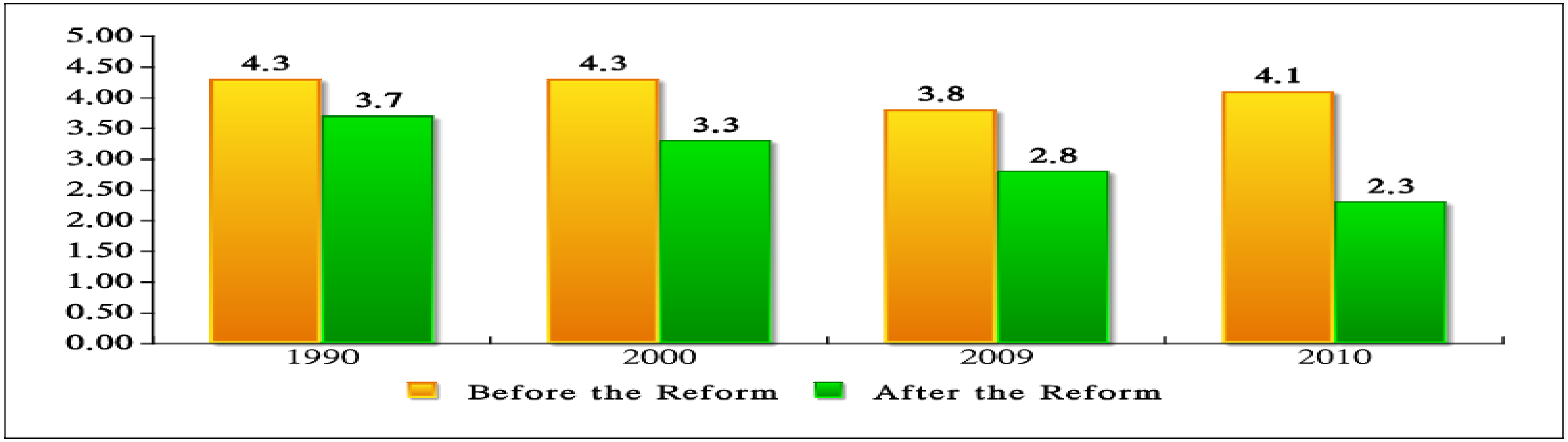
Equity Evaluation: Micro-perspective (3)

- The money's worth ratio (**MWR**) of the later appointee also falls more heavily.

→ 13.95% in 1990, 23.26% in 2000, **26.32**% in 2009, and **43.90**% in 2010

Comparison of the MWRs by Year of Employment

(30 Years of Service, as of January 2010)



- In both NB and MWR simulations, the difference between the 2009 insured and the 2010 insured turns out to be strikingly large.

→ This is because the minimum retirement age was set at dual basis.

Note: Equity Estimates for the Newly Insured

(Present value as of January 2010, thousand Won)

Equity Measures	Before the reform		After the reform	
	Public Sector	Private Sector	Public Sector	Private Sector
lifetime income(a)	1,882,853	1,736,099	1,698,717	1,736,099
lifetime income gap (b=a(public)-a(private))	146,754		-37,382	
RLIG (b/a(private)*100)	8.5%		-2.2%	

→ Lifetime income = {wage income + pension benefits + retirement allowance – contribution}

→ Wage gap between the public sector and private sector is assumed to be 89.2%, following the MOPAS (2009).

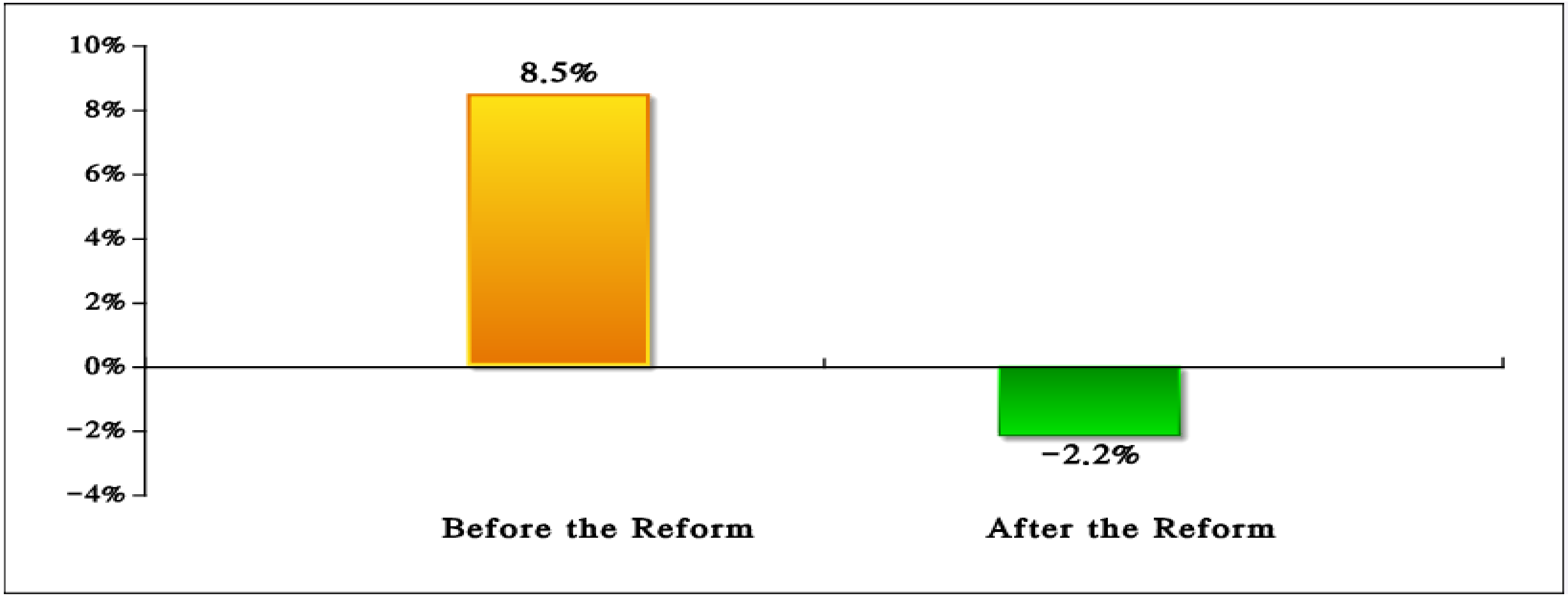
Equity Evaluation: Micro-perspective (4)

- The RLIG for the newly appointed decreases from 8.5 percent in the absence of the reform to -2.2 percent.

→ The equity between public sector worker and private sector worker is substantially improved.

Comparison of RLIG between Private Sector and Public Sector

(Newly Appointed Worker with 30 Years of Service, as of January 2010)



Summing up Evaluation (1)

- **From a financial perspective**, the future cost will significantly decrease, improving the financing of the future GEPS.

→ In short, the burden of the future government would be reduced by more than 50 percent.

- However, the significance of the financial improvement must be kept in a proper perspective.

→ The financial gain until 2030 turns out to be relatively minimal.

→ Moreover, the future government still has to subsidize approximately one fifth of payroll for the pension.

Summing up Evaluation (2)

- **From an equity perspective**, the newly insured cohort would get significantly less money's worth.
- As a result, the equity between the newly public sector worker and private sector worker is substantially improved.
- However, this result must be kept in a proper perspective, too.

→ The benefits loss is relatively small for the incumbent.

→ More in particular, the difference between a 2009 insured worker (as incumbent cohort) and a 2010 insured worker (as newly insured cohort) turns out to be strikingly great.

Summing up Evaluation (3)

- The reform was intended to be a **compromise** between the incumbent workers and the general public group, sacrificing the benefits of the newly insured.

→ The 2009 reform is a typical example of the so-called '**compromise among interest groups**' and **'give and take**' in politics.

- Consequently, the future public sector will be distinctively characterized by two groups of working population with the different level of pension benefits.

→ The **dual structure of public sector** is inevitable in the future.

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Tasks Ahead (1)

- First, one of the most imminent challenges is to streamline the system in order to achieve an actuarial balance in the system.

→ The structural imbalance has accumulated a huge amount of implicit pension debts, and as long as the current system is left unchecked, the debts will invariably continue to rise fast.

→ Let alone legacy debts from the past, immediate actions are required to streamline the system, at least, to prevent additional debts in the future.

- To make this happen, there should be a reconsideration on the adequacy of the current pension benefit level.
- More importantly, it is necessary to establish a framework to raise financial resources based on the principle of an actuarial balance, rather than an improvised measures to cover the deficit as it is done today.

Tasks Ahead (2)

- Second, the current premium pricing method needs to be transformed focusing more on the role of the government.

→ The employer in the private sector covers approximately 13 percent of the premium which includes a half (4.5 percent) of the National Pension and full retirement allowances (8.3 percent).

→ The government has only covered less than a half of 13 percent.

- This needs to be corrected immediately, and furthermore, an adequate role of the government should be clearly stipulated again in the law.

→ In short, the government needs to expand its full coverage of the GEPS to what is considered most appropriate retirement allowance in the private sector.

→ Also, the government should be held accountable for the unfunded pension debts due to its insufficient contribution in the past.

Tasks Ahead (3)

- Third, with the 2009 reform, the future public sector will be distinctively characterized by two groups of working population with different levels of pension benefits.

→ The **dual structure** may cause various problems such as **inter-generational conflict within the public sector** and **inefficient personnel management for the government.**

- The necessary *soothing mechanism* should be implemented in a timely and appropriate manner so that the equity conflict and inefficient personnel management can be minimized.
- Following the reform trends of the civil servant pension systems around the world, **the implementation of top up DC scheme for the newly appointed** could be an effective alternative.
- Most of all, the future path of the GEPS reform should be chosen in a fashion that both macro-financial aspect and micro-equity aspect are equally well considered.

Tasks Ahead (4)

- Forth, excessive disparity between the public and private sectors may trigger equity problems especially for the current employees.
- Given that the benefit level of the National Pension was recently reduced by a large amount and that the government will soon increase tax support to cover the deficit of the GEPS,

→ the public's discontent against the system will grow further.

- Therefore, additional adjustments on the benefit level for the current employees should be considered.

Note: Gap of Pension Accrual Rates between NPS and GEPS

	Before reform (before ’07)	After reform (after ’09)	Reduction rate
Government Employees Pensions(A)	app. 2.1% (30-year contribution: 63%)	1.9% (30-year contribution: 57%)	app. 9.5%
National Pension (B)	ave. 1.5% (30-year contribution: 45%)	ave. 1.25%(’08)→1.0%(’28) (30-year contribution: 37.5% →30%)	16.7→33.5%
A/B	1.4	1.52→1.9	

Note: The accrual rate per year in the share of the average taxable income of the whole pension period.

Tasks Ahead (5)

- Lastly, in order to enhance the financial sustainability of the GEPS, it may be necessary to consider measures to transform the current singular system into a multi-tiered system.

⇒ see paper (Appendix) for more details.

- In this case of adjustment, it would be much easier to identify a functional distinction on the role of the GEPS and to decide on who should be accountable concerning finance if it runs into trouble.
- Also, it is necessary to prospectively consider the operation measures of integrating the one-tiered National Pension, as in the reform cases in the US and Japan, while separately managing the function of the private retirement pension from the GEPS.

Note: KDI’s Suggestions on the GEPS Reform(1)

- Phasing out the current imbalanced structure, and transforming it into a multi(3)-tired structure linked to the NPS.
  (e.g. CSRS→ FERS reform in the U.S)

→ to enhance the long-term financial sustainability
→ to discard excessive preferential favors for the GEPS under the existing system
→ to improve a substantial, not institutional, equity between public and private workers, and to reflect the distinction into the system in a more transparent way
→ to make it clear of the premium payment criteria to be applied to the government and public employees.

Note: KDI's Suggestions on the GEPS Reform(2)

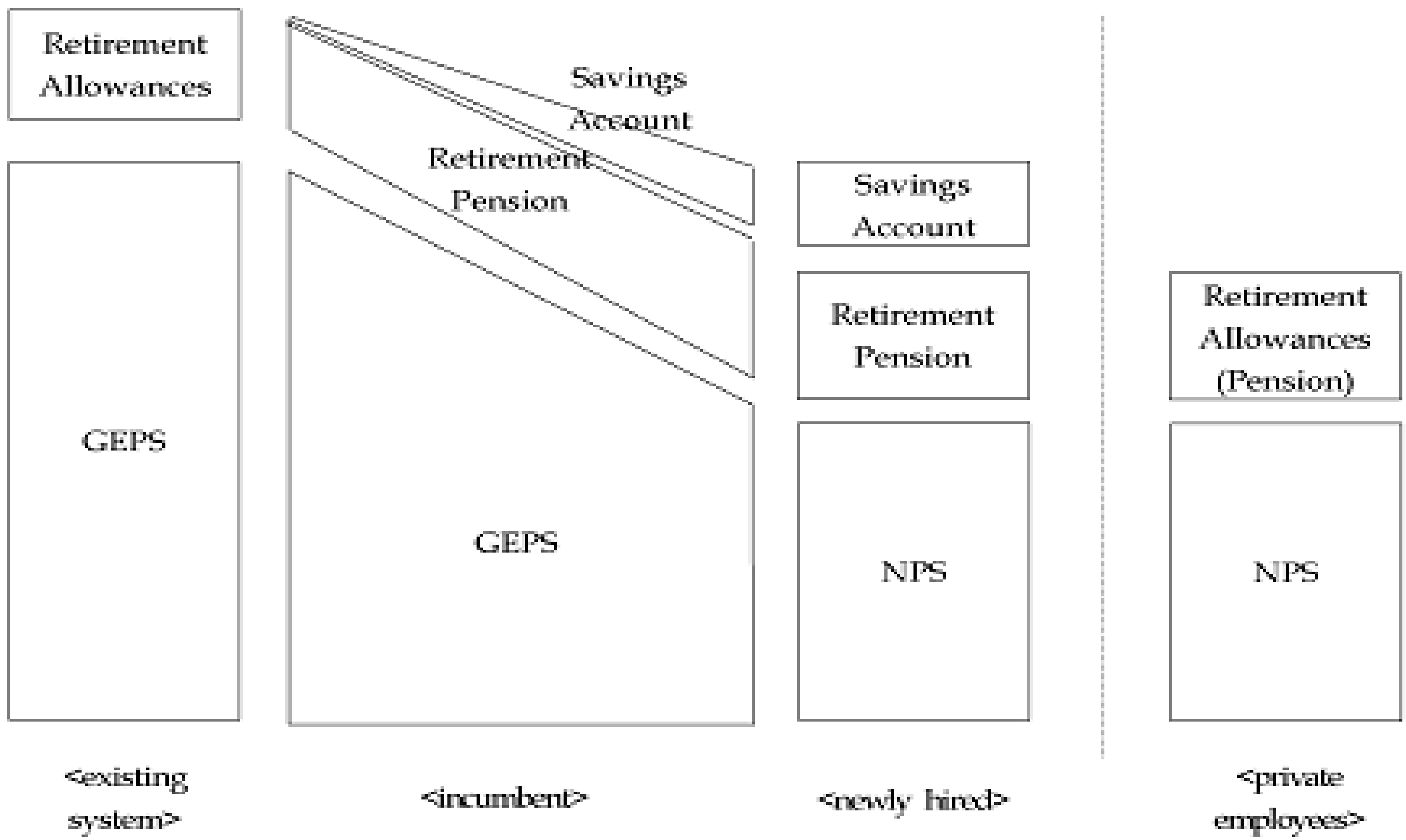
- For the newly hired,

→ NP (1st-tier) and DB-type retirement pension (2nd-tier) are applied in the same way to both public/ private sector workers.
→ The voluntary DC-type Savings Account with government's matching contribution (3rd-tier) is provided for substantial equity.

- For the incumbent public employees,

→ Instead of switching to the NPS, the total retirement benefits is to decrease gradually (grandfathering) toward the level for the newly hired through parametric adjustment and structural changes.

Note: Framework of Multi-tiered System (KDI)



Thank you !!