International Symposium on Tackling Aging Challenges of China-Japan-Republic of Korea, May 14-15, 2012, Beijing, China

The Economic Impacts of Demographic Changes: The Case of Republic of Korea

Hyungpyo Moon 2012. 5. 15 Korea's Leading Think Tank KDI

CONTENTS

Ⅰ. Demographic Changes in Korea

Demographic Changes in Korea

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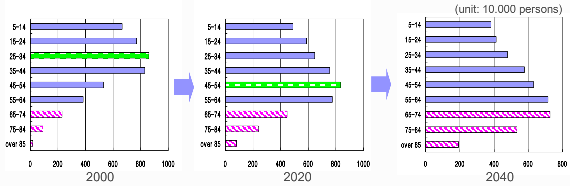
▣ Although it is at an initial stage, Korea's population aging is rapidly progress due to extremely low fertility rate and increasing longevity.

- ratio of population aged over 65 : 11.0%(2010)
- total fertility rate : 1.15(2009)
- life expectancy : 65.7('80) → 79.6('10) → 86.0('50)

<Demographic Changes in Korea: 2000-2040>

(unit: 10,000 persons)



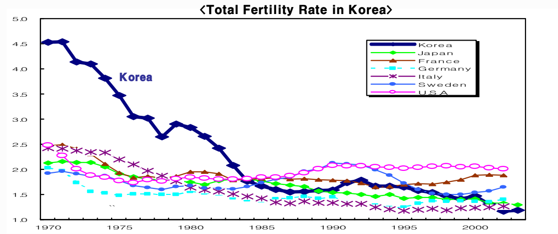
Source : NSO(2006)

Demographic Changes in Korea

KDI

- Insufficient support system available for women to rear children while pursuing a working career, and overly excessive costs of private education are some of the reasons behind the low fertility and low female labor participation rate.
  - Female labor force participation rate: 58.7% in 2008 (G-7 average: 69.0%)

<Total Fertility Rate in Korea>



1) Fertility rate for US in 1860: 5.5, Fertility rate for Sweden in 1875: 4.5

Demographic Changes in Korea

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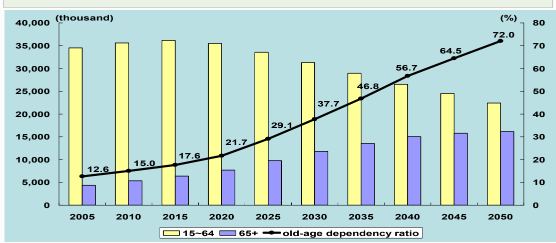
▣ Old-age Dependency ratio is expected to rise by almost 6-fold from 12.6% in 2005 to 72% in 2050.

- ratio of population 65+ : 9.1%('05) → 38.2%('50)
- ratio of population 15-64: 71.7%('05) → 53.0%('50)



Source : NSO(2006)

II. Economic Impacts of Demographic Changes

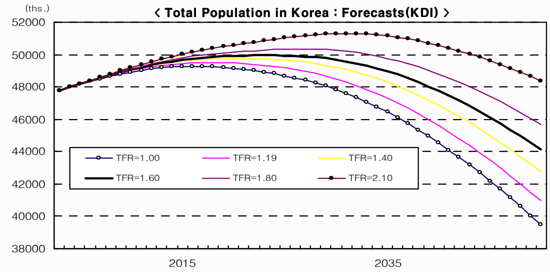
Economic Impacts: Labor

KDI

▣ The trend of demographic changes will be sensitive to the future fertility assumptions.

- If the fertility rate is maintained at 1.2 level, Korea's total population will rapidly decline starting 2018.

< Total Population in Korea : Forecasts(KDI) >



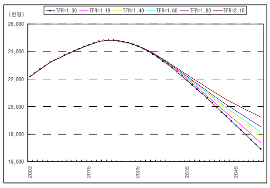
Economic Impacts: Labor

KDI

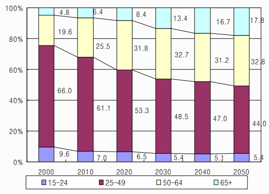
▣ Population aging will not only decrease the size of workforce quantitatively, but also reduce the quality of labor.

- Number of employed: 22 million (in 2003) → 25 million (in 2019)
  → 17 ~ 19 million (in 2050)
- Aging of labor force and reduction of young workforce → concerns over declining labor productivity

<Number of Employed >



<Distribution of Workforce by Age>



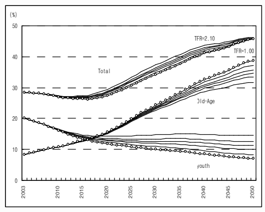
Economic Impacts: Savings

KDI

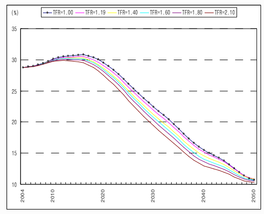
▣ Population aging will also lower the national savings rate and discourage capital accumulation.

- Savings rate will continue to decline with the increase in dependent population starting 2016.
- In addition, the growth of public pensions will crowd out private savings.

< Changes in Dependency Ratio >



< Changes in Savings Rate >



Economic Impacts: Growth Accounting

KDI

▣ Rate of potential growth is expected to decline continuously due to reduction in labor force and capital accumulation that accompanies aging society. Savings rate will continue to decline with the increase in dependent population starting 2016.

- After 2020, it is expected that potential growth rate will rapidly decline.
- In order to prevent such effects; 1) increase fertility rate, 2) enhance economic participation, 3) accumulation of human and physical capitals, and 4) increase productivity of the economy

< Forecast of Potential Growth Rate by Fertility Rate >

TFR	1	1.2	1.4	1.6	1.8	2
2010~20	4.84	4.82	4.81	4.80	4.79	4.76
2020~30	3.58	3.56	3.52	3.50	3.47	3.43
2030~40	2.23	2.25	2.24	2.22	2.22	2.22
2040~50	1.26	1.38	1.48	1.52	1.59	1.73

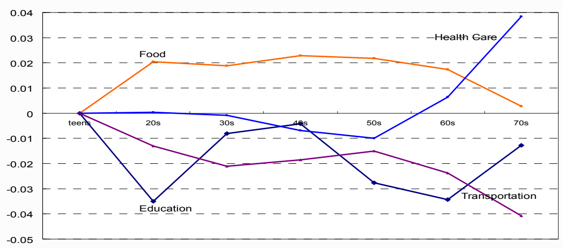
Source : Moon(ed.)(2004)

Economic Impacts: HH Consumption

KDI

▣ Using the demand analysis model (QUAIDS), demographic changes are found to have a significant impact on the composition of household consumption expenditures.

< Estimates of Age Effect on the Composition of H-H Consumption Expenditures>

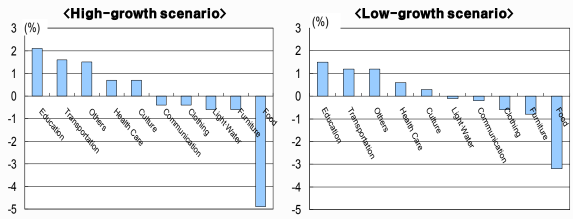


Economic Impacts: HH Consumption

KDI

- Demographic factors are expected to play a greater role in determining changes in the composition of consumption expenditures in the future.
  - Demographic changes are expected to raise the expenditure for health and medical care.

< Changes in Household Consumption Shares by Items: Forecasts(2005-2020)>

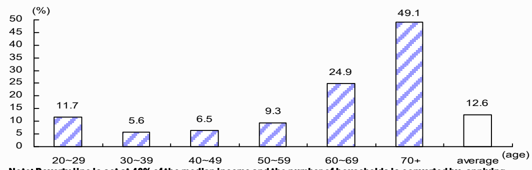


Economic Impacts: Old-age Poverty

KDI

- Despite continuous economic growth, old-age poverty still remains a very critical problem.
- Rapid population aging not only weakens the potential growth rate but also substantially raise social risks such as poverty among the elderly and their medical costs.

< Poverty Rates by Ages of Household Heads in Korea >



Note: Poverty line is set at 40% of the median income and the number of households is converted by applying equivalence scale.
Source: Korea National Statistical Office, 「National Household Survey」 (2006).

Economic Impacts: Old-age Poverty

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- The ***nominal*** coverage of National Pension was expanded to entire population in 1999.
- However, about 1/3 of the insured are non-contributors currently.
  - Insufficient income and administrative incapacity are main causes for non-contributions.
  - Non-participation in NP is most prevalent among *non-regular workers(temporary and daily workers) in small business*.

(thousand persons., %)

total insured	workplace-based	individually insured				voluntary participants
			contributors		exempted	
			collected	not-collected		
18,624 (100.0)	9,867 (53.0)	8,680 (46.6)	2,253 (12.1)	1,375 (7.4)	5,052 (27.1)	77 (0.4)

Non-contributors (34.5%)

Data: NPS(2009)

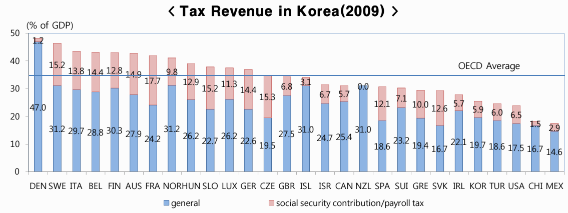
Ⅲ. Impacts on the Public Sector/Social Security System

Current State: Tax Revenue

KDI

- Korea has one of the lowest tax burdens in the OECD region.
  - Total tax burden in 2009(% of GDP): Korea 25.6%, OECD average 34%
    - General tax burden(19.7%): 80% of OECD average
    - Social security tax burden(5.9%): 60% of OECD average

< Tax Revenue in Korea(2009) >

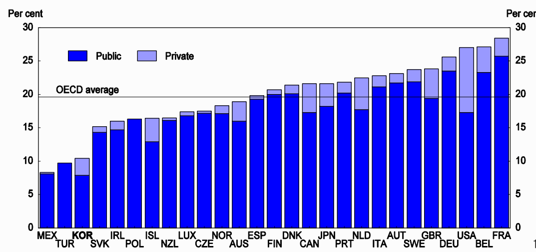


Source: OECD (2010), Revenue Statistics 1965-2009, OECD, Paris

Current State: Social Expenditure(1)

KDI

- Currently, social expenditure in Korea is relatively low.
  - SOCX in 2007(% of GDP): Korea 10.4%, OECD average 20%



Current State: Social Expenditure(2)

▣ The social expenditure gap can be explained by..

- Difference in demographic structure
  - pop. share of 65+(2010): Korea 8.8%, OECD average 13.5%
- Difference in income level
  - per capita GDP (current PPPs): Korea $29,004, OECD avrg. $33,898
- Difference in maturity of social security system
  - National Pension Plan(1988 ~1999)
  - National Health Insurance(1977 ~ 1989)
  - Long-term Care Insurance(2008)

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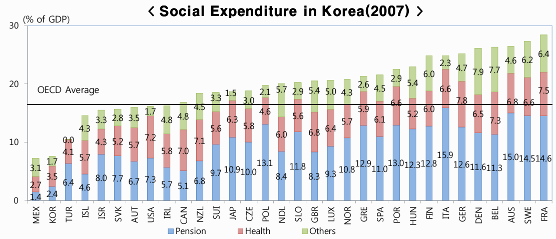
Current State: Social Expenditure(3)

▣ Indeed, the social expenditure gap comes largely from age-related spendings such as public pension and healthcare.

▣ It also implies that, with rapid population aging and system's maturing, social expenditure will grow fast in the future.

〈 Social Expenditure in Korea(2007) 〉



Source: OECD Social Expenditure Database (SOCX), www.oecd.org/els/social/expenditure.

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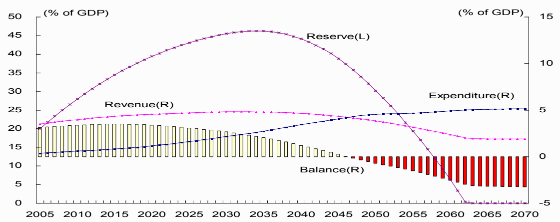
Impacts on Public Pensions

▣ Financial Vulnerability of public pension system due to the structural imbalance and rapid population ageing

▣ Occupational pensions are in a much more dire state.

- The GEPS reserve fund was exhausted in 2000.

〈 Financial Prospects of National Pension Scheme 〉

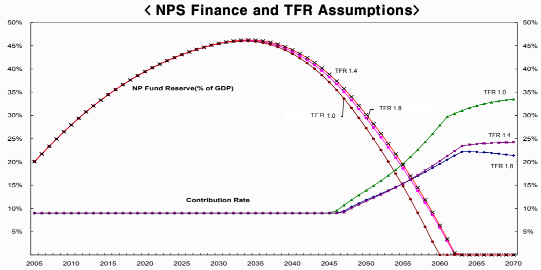


Impacts on Public Pensions

▣ Financial sustainability of NPS will depend critically on fertility rates in the future.

- PAYG contribution rates in 2070: 33.5%(TFR 1.0), 21.4%(TFR 1.8)

〈 NPS Finance and TFR Assumptions〉



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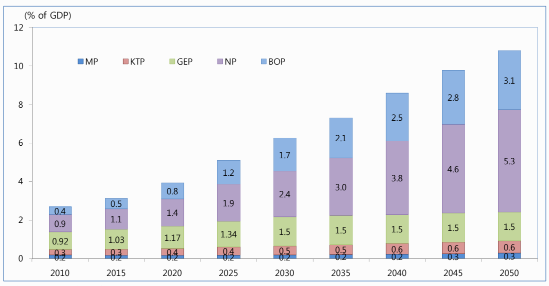
Impacts on Public Pensions

- In sum, public pension spending will grow exponentially.
  - pension exp.(% of GDP): 2.7%(2010) → 6.3%(2030) → 10.8%(2050)



Source: KIPF(2011)

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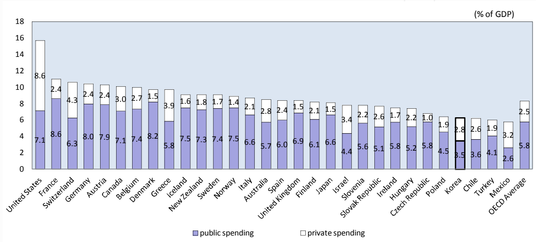
Impacts on Health Expenditure

▣ Korea's total health expenditure(2007) accounted for 6.3% of GDP, the 4th lowest in OECD countries(public spending, 2nd lowest).

▣ Universal coverage of NHI was rapidly achieved by fixing medical prices low and limiting benefits covered.



Source: OECD Health Statistics (data base), 2010.

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Impacts on Health Expenditure

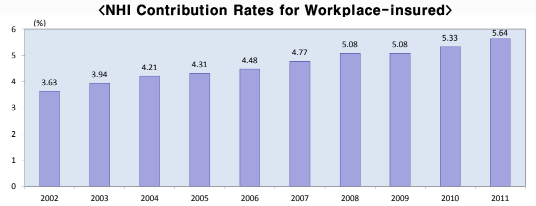
▣ But, the ***speed*** of growth in health spending is the fastest.

- average annual increase rate: 12.7% (2000~2009)

▣ To finance the growing outlays of NHI, the government increased contribution rates almost every year during the last decade.

- contribution rates for wage workers : 3.63%('02) → 5.64%('11)

<NHI Contribution Rates for Workplace-insured>



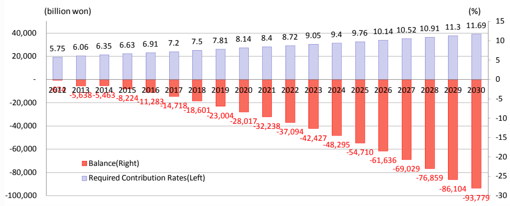
Source: National Health Insurance Corporation, by year

Impacts on Health Expenditure

▣ NHIC's projections (2010)

- The deficit of NHI will increase exponentially in the near future, even if medical fees are kept constant in real terms.
- Substantial increase in contribution rate is inevitable [5.64%('11) → 11.69%('30)].

< Financial Projection Results of NHIC >



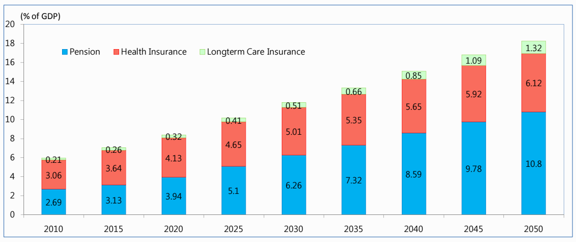
Source: National Health Insurance Corporation, 2010.
Medical fees in nominal terms are assumed to increase 2.5% per annum, in line with the consumer price index (CPI).

Impacts on Social Expenditure

▣ Social expenditure, together with the social security contribution burdens, will increase automatically at a rapid pace.

- pension/health exp.(% of GDP): 5.9%(2010) → 11.8%(2030) → 18.3%(2050)

▣ The biggest challenge is to contain growing social expenditure at an affordable level.

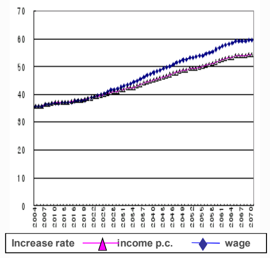


Source: KIPF(2011)

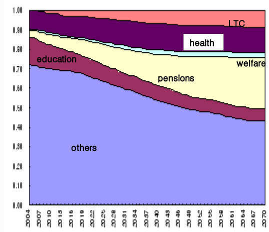
Impacts on Public Spending

- Fiscal expenditure (% of GDP): 04: 35.5% → 50: 51.6% → 70: 57.9%
- Shares of age-related spending: 04: 12.8% → 50: 55.2% → 70: 61.0%

<Fiscal Expenditure (% of GDP)>



<Comosition of Fiscal Expenditures>



Source: Moon(ed.), 2004

Ⅳ. Policy Implications

Major Policy Agendas

▣ Low fertility: A population policy together with family, gender, welfare and immigration policies

▣ Labor market: Inducing participation of female workers and older-aged workers, fostering various part-time jobs, elimination *de facto* discrimination

▣ Education reform: Increasing diversity and specialization through decentralization & deregulation

▣ Productivity : Further opening up of economy, regulatory reform, implementation of institutional reforms to global standards

- Create synergies among education, R&D, and industrial policies

▣ Public sector: Sound fiscal management, pension / health insurance / long-term care reforms

▣ Financial Market: Fostering private annuity and health insurance markets, encouraging private/public savings

Major Policy Agendas: Old-age workers

- **Labor participation rates of the elderly population in Korea is high (especially males), and need to be maintained.**
  - mainly due to immature old-age income security system
- **Various institutional barriers which hinder old-age workers from staying in the labor market should be abolished.**
  - to help extend the firm-based mandatory retirement age, and rectify seniority-based wage schemes
  - the provision of incentives for employers to keep old-aged employees, and the creation of alternative job opportunities for displaced old-aged workers
  - the provision of programs and institutional settings for smooth transition from work to retirement
  - reduction in incentives for early retirement in public pension schemes

Major Policy Agendas: Public Sectors

- **Establishment of sound fiscal management**
  - maintaining balanced budget and reducing outstanding public debts
  - strengthening the medium-term / long-term expenditure frameworks
  - expanding tax bases and enhancing tax compliance
- **Pension Reforms**
  - strengthening the pre-funded schemes by rectifying their structural imbalance
  - reducing incentives for early retirement in pension schemes
  - fostering corporate / individual annuity markets
- **Healthcare Reforms**
  - containing healthcare costs through global budgeting, reference pricing and price-volume arrangement, etc.
  - reforming the payment system to Diagnosed-Related Group (DRG) from Fee-for-Service system
  - reducing spending on pharmaceutical drugs by reforming the official pricing system for pharmaceutical drugs

Korea's Leading Think Tank

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Thank you !

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