

World Bank-RIPPA Workshop on Matching Defined Contribution, June 6-7<sup>th</sup> 2011, Washington DC, USA

# **Expanding Coverage of the National Pension in Korea: Effectiveness of Matching Contribution Subsidy**

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Korea's Leading Think Tank 

# OUTLINES

**I . Introduction: Current State**

**II . Participation Behaviors in the National Pension**

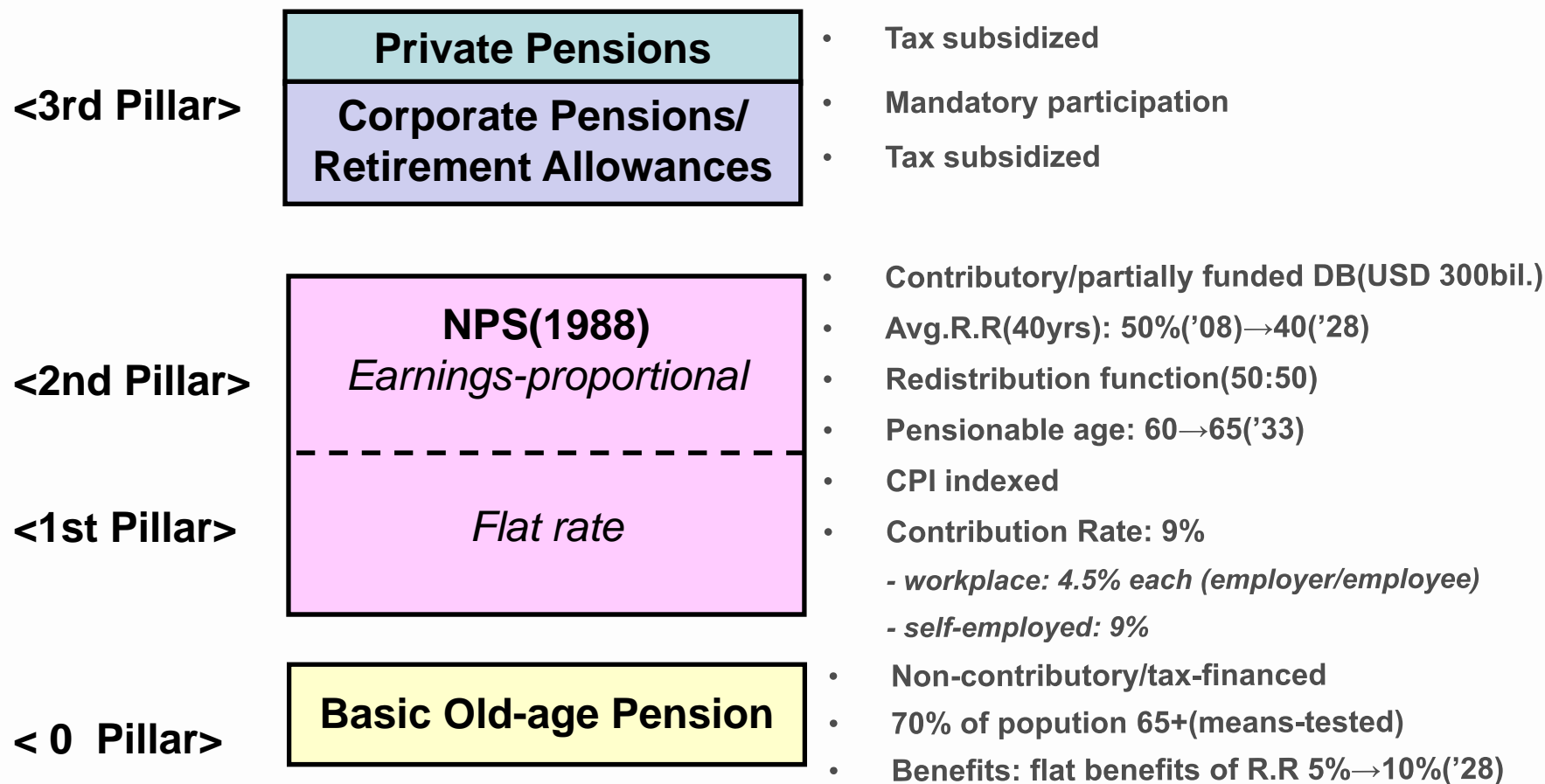
**III . Effectiveness of Matching Contribution Subsidy**

**IV . Policy Implications**

## **I . Introduction: Current State**

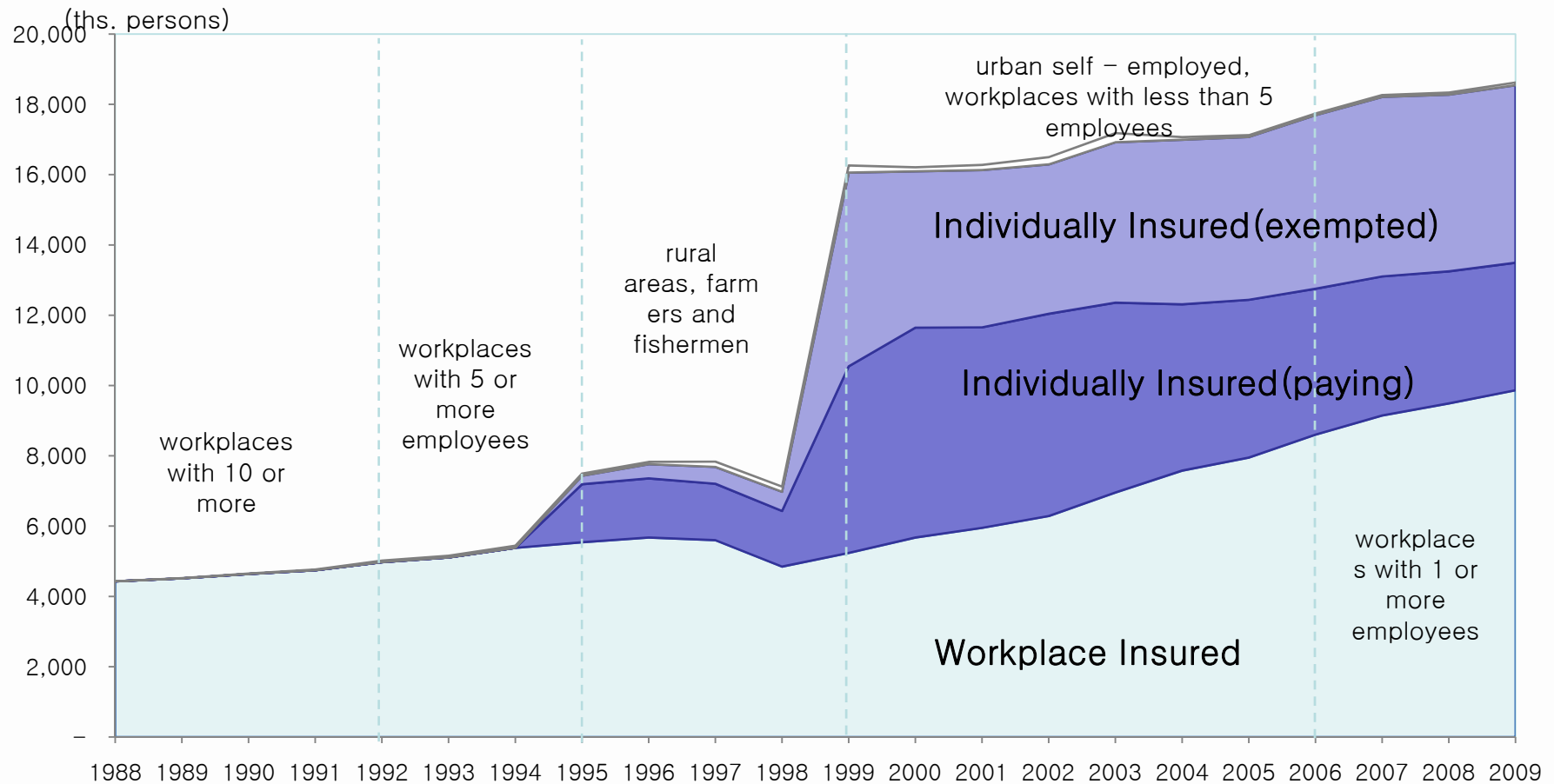
# I . National Pension : Current State

## ■ Major Old-age Income Security System in Korea(2011)



# I . National Pension : Current State

## Coverage Expansion of the NP



Source: NPS

# I . National Pension : Current State

## ■ Narrow Coverage

Currently, about 1/3 of the insured are non-contributors.

Insufficient income and administrative incapacity are main causes for non-contributions.

(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%)**

## **II . Participation Behaviors in the NP**

## II. Participation Behaviors in the NP

### ■ Who are the individually-insured?

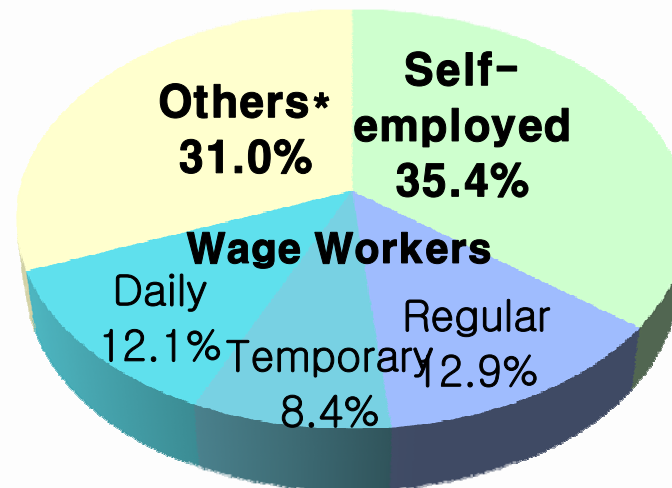
Statutory division : active wage workers ⇒ workplace-insured

self-employed/ employers ⇒ individually-insured

Surveyed results (KOWEPS) are quite different.

- In fact, 1/3 of individually-insured are active wage workers.

Composition of Individually-insured



\* includes unpaid family workers, unemployed, and economically non-active population  
Source: Calculated from Korea Welfare Panel Data, 2008.

## II . Participation Behaviors in the NP

### Who are non-participants?

**Participation rates : self-employed (58.6%), wage workers (27.8%)**

**- Only 17.7 % of temporary workers are actually paying contributions.**

**The higher the job insecurity, the lower the participation rate.**

Participation Behaviors by Type



\* includes unpaid family workers, unemployed, and economically non-active population  
Source: Calculated from Korea Welfare Panel Data, 2008.

## II . Participation Behaviors in the NP

### Estimation Results for Individually Insured Persons (Probit)

Dependent Variables		Model 1		Model 2	
		dy/dx	(s.e)	dy/dx	(s.e)
Male		0.0758***	(0.028)	0.0736***	(0.028)
Age		0.0375**	(0.016)	0.0355**	(0.016)
Age <sup>2</sup>		-0.0002	(0.000)	-0.0002	(0.000)
Economic Status (Basis: Temporary Worker)	Regular Worker	0.1835***	(0.063)	0.1822***	(0.063)
	Daily Laborer	0.0023	(0.058)	0.0048	(0.058)
	Self- employed	0.3129***	(0.052)	0.3150***	(0.052)
	Others*	-0.0513	(0.052)	-0.0492	(0.052)
Educational Background (Basis: Middle School or lower)	High School	-0.0475	(0.037)		
	College or Higher	-0.0399	(0.042)		
Years of Schooling				-0.0146	(0.021)
ln (Disposable Income) <sup>1)</sup>		0.1144***	(0.023)	0.1140***	(0.023)
Observations		1,933		1,933	

Robust standard errors in parentheses, \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

1) Adjusted for family size using  $\frac{1}{\sqrt{n}}$

## II . Participation Behaviors in the NP

### ■ Empirical Findings (individually-insured)

**Participation behaviors are highly sensitive to variables such as income, age and gender.**

**Education variables were statistically insignificant.**

**When individual characteristics are controlled, the participation probability of regular workers (self-employed) is 2 times(2.8 times) higher than temporary workers, respectively.**

## II. Participation Behaviors in the NP

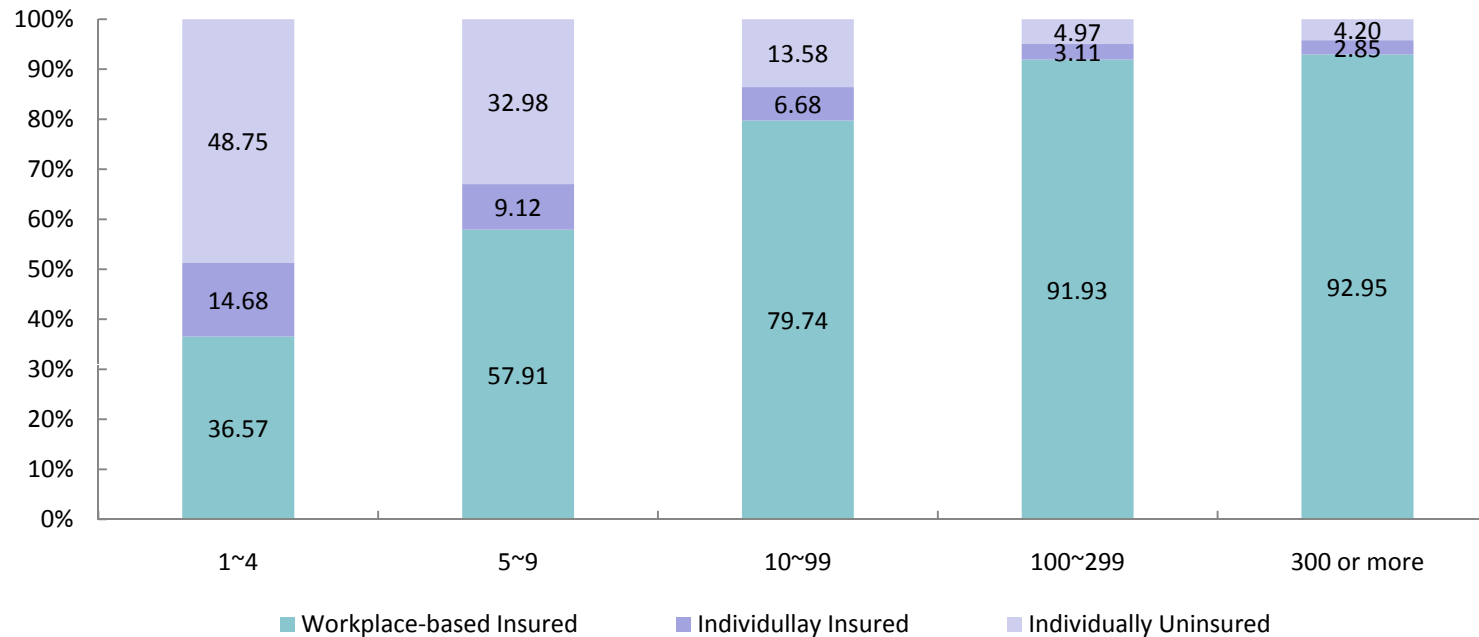
### ■ What type of workers are excluded? (1)

The workers in smaller workplace are more unlikely to participate in NP.

- Participation rates are much lower for workplaces with 10 or less employees.

Participation Behavior of Wage Workers

#### A. By Workplace Size

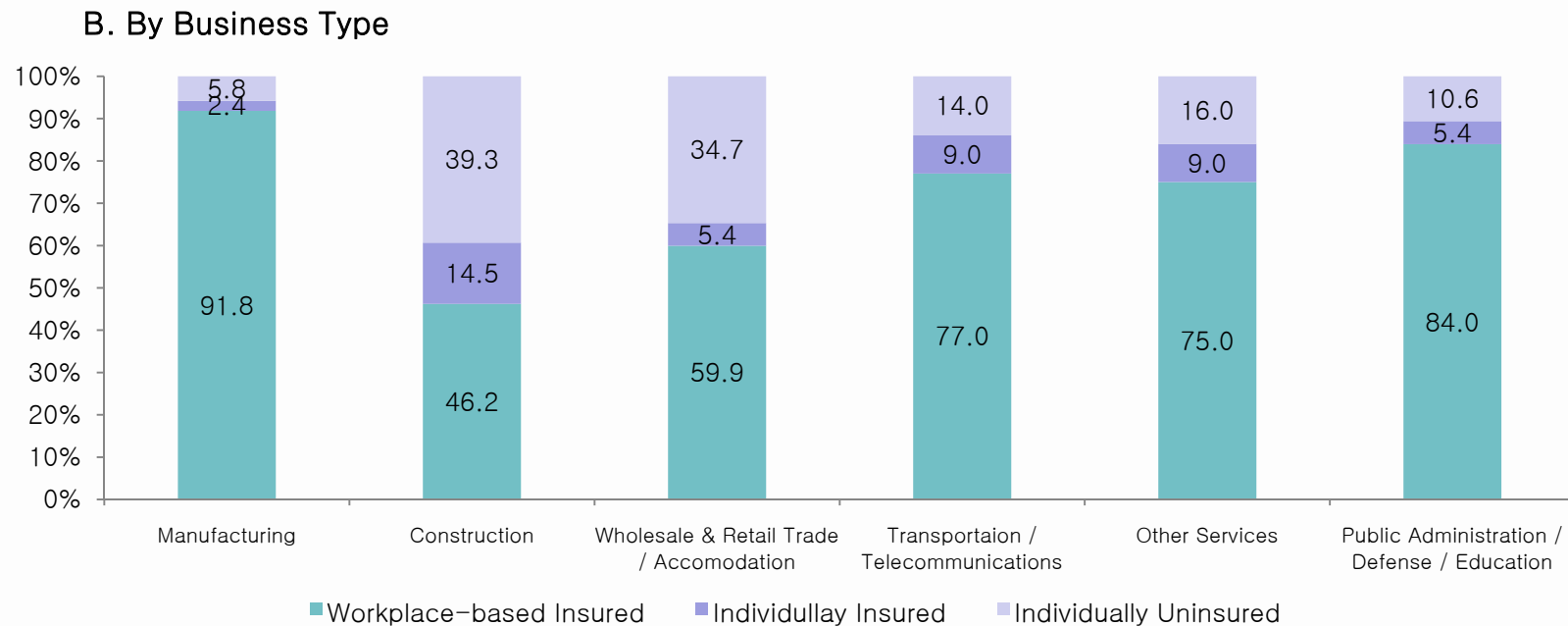


## II. Participation Behaviors in the NP

### What type of workers are excluded? (2)

Participation rates are particularly low for workers in Construction, Wholesale/ Retail, and Accommodation industries.

Participation Behaviors of Wage Workers



Source: Calculated from Korea Welfare Panel Data, 2008.

## II . Participation Behaviors in the NP

### Estimation Results for Wage Workers (Probit)

Dependent Variables		Participation or Non-participation	
		dy/dx	(s.e)
Male		0.0109	(0.013)
Age		-0.0138***	(0.005)
Age <sup>2</sup>		0.0002**	(0.000)
Educational Background (Basis: Middle School or Lower)	High School	-0.0823***	(0.027)
	College or Higher	-0.0223	(0.026)
Economic Status (Basis: Temporary Worker)	Regular Worker	0.2301***	(0.027)
	Daily Laborer	-0.0840**	(0.034)
Workplace Size (Basis: less than 5 employees)	5~9	0.0235*	(0.014)
	10~99	0.0885***	(0.012)
	100~299	0.0864***	(0.009)
	Over 300	0.1138***	(0.012)
Business Type (Basis: Manufacturing)	Agriculture, Forestry, and Fishery	-0.1820*	(0.111)
	Construction	-0.1080***	(0.033)
	Wholesale & Retail Trade and Accommodation	-0.1547***	(0.033)
	Transportation and Telecommunications	-0.1140***	(0.039)
	Other Services	-0.0919***	(0.023)
	Public Administration, Defense, and Education	-0.0430	(0.029)
ln (dincome) <sup>1)</sup>		0.0280**	(0.012)
Observations		2,746	

Robust standard errors in parentheses, \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

1) Adjusted for family size using  $\sqrt{n}$

## II . Participation Behaviors in the NP

### ■ Empirical findings (wage workers)

Participation probability of regular workers is higher by 23.0% p, compared to temporary workers.

Participation probability of workers in small business (<10 employees) is lower by 8~11% p.

Participation probability of regular workers in construction (wholesale/ retail) industry is significantly lower by 15% p (10%p), compared to manufacturing industry.

→ The primary target group for coverage expansion should be *non-regular workers in small business.*

### **III . Effectiveness of Matching Contribution Subsidy**

## III - 1. Policy Options for Coverage Expansion

- ▶ Option 1: Introduction of non-contributory universal basic pension
  - Due to rapid population aging, the BP expenditure alone will take up 7.2~9.6% of GDP in 2050. (avg. rep. rate: 15~20%)
  - When financed by VAT, the tax rate (currently 10%) should go up to 21~29% by 2050.
  
- ▶ Option 2: Providing compliance incentives through matching contribution subsidy
  - How effective is the contribution subsidy in enhancing coverage of the challenging groups?
  - Who should be the targeted groups?

## III- 1. Policy Options for Coverage Expansion

- ▶ Proposal of the Ministry of Health & Welfare (2010): to provide low-income individually-insured persons with a matching subsidy that covers a half (4.5%) of their contributions.
- ▶ The MoHW's proposal implicitly assumes that the majority of individually-insured are *self-employed*.
  - However, many of them are actually *active wage workers* who are automatically entitled to the workplace-based insurance.
  - If they were workplace-based insured, they would have to pay only employee's share of 4.5% (instead of 9%).

## III- 1. Policy Options for Coverage Expansion

- ▶ Conceptual problems of the MoHW's proposal:
  - First, it is equivalent to exonerating irresponsible employers who don't provide their employees with the workplace-based insurance, rather than relieving the contribution burden of workers.
  - Second, it will eliminate incentives to convert non-regular workers into workplace-based insured, as the share of contribution to be paid by workers would not be changed.

## III- 1. Policy Options for Coverage Expansion

- ▶ Conceptual problems of the MoHW's proposal (continued)
  - Third, Employers who already registered their employees as workplace-based insured may choose to convert them into individually-insured so as to save their share of contribution (collusion problems).
- ⇒ More careful design of a matching contribution subsidy is needed, so as not to produce *moral hazard* among employers.

## III - 2. Effectiveness of Contribution Subsidy



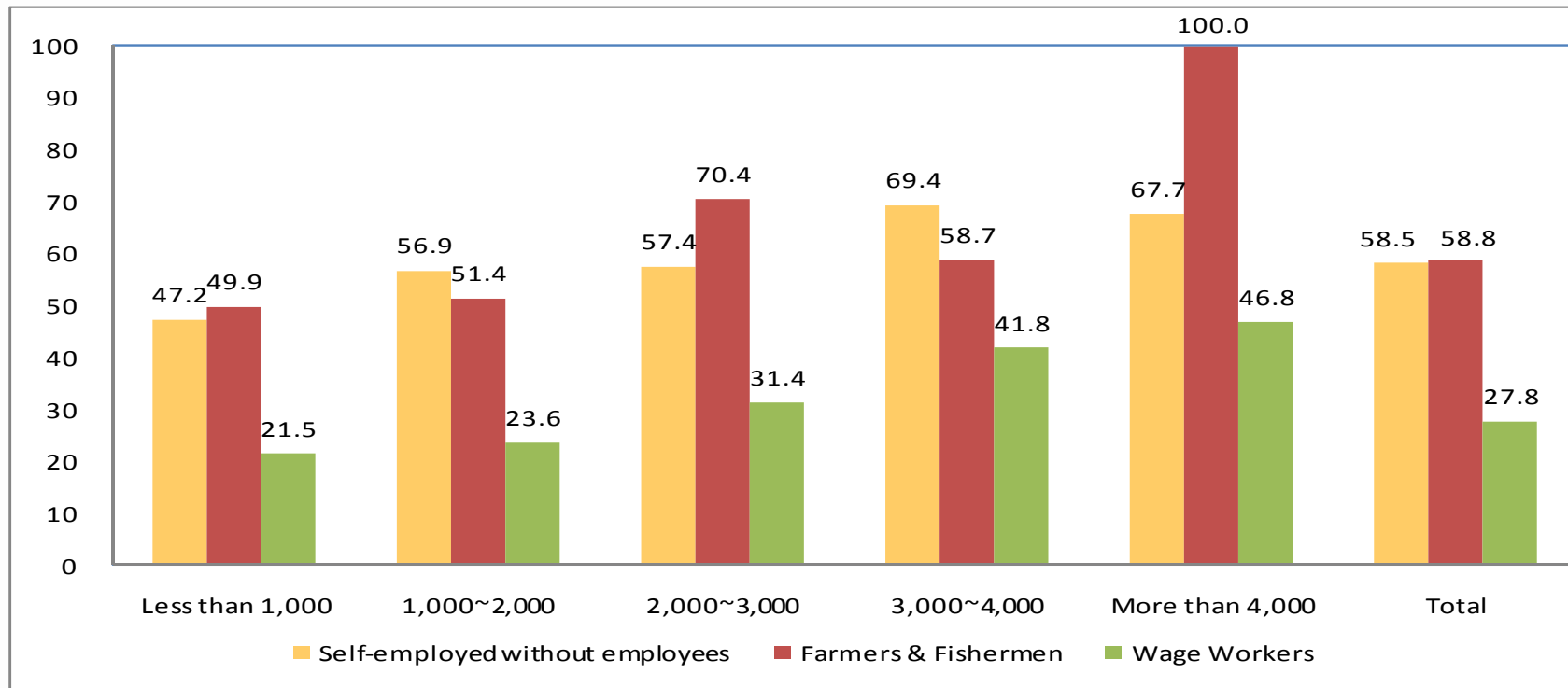
### ▶ Current Contribution Subsidy for Farmers/Fishermen

- Beneficiaries: persons who are engaged in agriculture, forestry, livestock or fishery businesses.  
(farmers and fishermen)
  - Subsidizing period: 1995 ~ 2014
  - Financing: tax-financed (Special Accounts for Agriculture and Fishery Structure Adjustment)
  - Subsidy amount:
    - if monthly income  $\leq$  SIA, 4.5% of income (1/2 of contribution)
    - if monthly income  $>$  SIA, 4.5% of SIA (fixed amount)
- ※ SIA (Standard Income Amount): 3-year average income of the total insured

## V - 3. Effectiveness of Contribution Subsidy KDI<sup>7</sup>

- ▶ Data: Korean Welfare Panel Study, KIHASA, 2008  
- number of obs. : 1,933(individually insured, 18~59)

### Compliance Rate of Individually Insured Persons by Income Class



Source: 『Korea Welfare Penal Study』 (2008).

## III - 2. Effectiveness of Matching Subsidy

► Q: Is there significant differences in participation behaviors?

Estimation Result (Probit)

Dependent Variables	Individually Insured Persons		Self-employed/employer		Wage Workers	
	dy/dx	s.e.	dy/dx	s.e.	dy/dx	s.e.
Gender	0.1604***	(0.025)	0.0230	(0.058)	0.1001**	(0.041)
Schooling years	-0.0001	(0.005)	-0.0001	(0.009)	-0.0060	(0.008)
Age	0.0688***	(0.015)	-0.0031	(0.030)	0.0602**	(0.026)
Age <sup>2</sup>	-0.0006***	(0.000)	0.0002	(0.000)	-0.0005*	(0.000)
ln (Disposable Income) <sup>1)</sup>	0.1653***	(0.023)	0.0985***	(0.036)	0.1597***	(0.037)
Dummies for farmers & fishermen	0.1785***	(0.060)	0.0131	(0.064)	0.2551***	(0.064)
# of obs	1,933		691		800	
Log pseudolikelihood	-1120.21		-446.49		-417.71	

Robust standard errors in parentheses, \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

1) Adjusted for family size using

Source: 『Korea Welfare Penal Study』 (2008).

## III - 2. Effectiveness of Contribution Subsidy

### ► Empirical Findings

- The *overall* marginal effect of contribution subsidy to farmers and fishermen seems to be statistically significant and robust.
- However, no empirical evidence was found regarding positive impacts of the contribution subsidy between farmers/fishermen and other self-employed.
  - Provision of similar contribution subsidy for the self-employed may not bring out significant effects of increasing compliance rate.
- On the other hand, the compliance rate of farmers/fishermen is estimated to be higher by 25%p than that of wage workers.

## III - 2. Effectiveness of Contribution Subsidy KDI<sup>7</sup> (Unit: %)

► Workers face additional obstacles.

### Reasons of Non-compliance : Surveyed Results

(Unit: %)

Reasons	Age			
	30~39	40~49	50~59	60
Lack of affordability	53.24	50.86	33.61	53.10
Employers' Refusal	22.17	33.81	53.19	13.63
Unstable pension scheme	10.65	5.53	6.93	13.87
Enough other alternatives	3.35	2.41	2.86	3.65
Not familiar with the scheme	4.37	2.11	1.80	13.59
Not entitled to mandatory compliance	6.21	5.28	1.60	2.15
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

Source: KIHASA (2010).

## **IV. Policy Implications**

## IV. Policy Implications(1)

- ▶ Contribution subsidy can be considered as a pre-emptive social investment, as it will alleviate poverty among the elderly in the future.
- ▶ It is much less costly compared to the introduction of non-contributory demogrant-type basic pension.
- ▶ If properly targeted to low-income/non-regular workers, contribution subsidy can be effective in increasing compliance to the NP.

## IV. Policy Implications(2)

- ▶ How to design subsidy scheme:
  - provide incentives both to *workers* to participate in the NPP,
  - and to *employers* to convert the individually insured workers into workplace-based insured.
  - ※ example:
    - 3%(G)-3%(E)-3%(W) for very low-paid workers
    - 2%(G)-3.5%(E)-3.5%(W) for low-paid workers
  - need to consider the equity issue between workers and self-employed.

***Thank you!***