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The Old-age Income Security Effect of the New Contribution Subsidy Program for Individual-Based National Pension Participants

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Introduction

The National Pension has in place a contribution subsidy program purposed to help those who, for economic reasons, have been exempted from paying contributions to the pension scheme to resume paying into it. Implemented in July this year, the subsidy program is intended to improve the old-age income security of individual-based enrollees with low income who, despite their high economic vulnerability, had until then been left out of subsidy support.

The key role of the subsidy program is in providing matching contributions for eligible individuals so as to make it more affordable for them to resume paying into the National Pension scheme. To put it another way, the advantage of the contribution subsidy program consists in providing something of an incentive for individual-based enrollees to reenter the National Pension system. Such a program, as it in effect increases both benefits and contributions for the participant, is well in accord with the basic principle of social insurance scheme.

It is difficult at this point of time to assess what impact this program will have on old-age income security, with only a few months having elapsed since its implementation. However, there have been some views that, given the low level of subsidy and the insufficient maximum number of eligible months, the new support program is too meager to bring about a substantive impact.[1)] Against this background, this study, drawing on a microsimulation approach, estimates the old-age income security impact of the pension contribution subsidy program and draws out some implications for policy.

The new contribution subsidy program for individual-based National Pension participants

The subsidy is targeted at individual-based National Pension participants who, having been exempted for economic reasons (business closure, job loss, furlough, etc.) from paying contributions, wish to resume paying into the National Pension scheme. In order to be eligible for the subsidy, one must: (i) be a holder of Korean citizenship; (ii) have had discontinued paying into the National Pension; (iii) have lodged the application for resumption of contribution payment sometime after the implementation of the subsidy program; and (iv) have a total annual taxable income of less than KRW16.8 million and a total asset value of less than KRW600 million. The subsidy is provided either at a fixed rate of 50 percent of the contribution amount (in the case of a taxable monthly incom of KRW1 million or less) or in a fixed amount of KRW45,000 for those with a monthly income greater than KRW1 million. Eligibility for the subsidy is limited to a lifetime total of 12 months.

[Table 1] A profile of the new contribution subsidy program

Who's eligible?	Income and asset criteria	Level of support	Maximum period of contribution subsidy
Those who, among individual-based participants exempted from contribution payment, wish to resume their participation in the scheme	(Asset) A taxable amount of less than KRW600 million (Income) An annual taxable amount of KRW less than KRW16.8 million	50% of the contribution amount for those with a monthly income of KRW1 million or less;	A lifetime total of 12 months

Source: Ministry of Health and Welfare. "National Pension contribution subsidy to individually-insured people in unemployment" (press release dated June 30, 2022).

The number of beneficiaries is estimated to be between 23o,000 and 362,000, or 5.03~8.43 percent of all individual-based participants who are under exemption from contribution payment.

1) A Pre-Feasibility Study of the Contribution Subsidy Program for Low-Income Individual-Based National Pension Participants. P. 125. Korea Development Institute (2021).

[Table 2] Individual-based participants under exemption from paying contributions (in 10 thousand persons; %)

	2011	2011	2013	2014	2015	2016	2017	2018	2019	2020
Individual-based participants under exemption from paying contributions (A)	509.98	489.96	466.52	457.54	457.10	451.16	417.33	382.61	370.13	327.67
Individual-based participants who resume paying contributions (B)	489.96	34.35	28.30	23.02	24.47	29.00	24.49	28.53	24.27	27.63
Rate of resumption of contribution payments (B/A)	7.10	7.01	6.07	5.03	5.35	6.43	5.87	7.46	6.56	8.43

Note: "Individual-based participants under exemption from paying contributions" for each year refer to the number of those falling in this category as determined at the end of the preceding year; "Individual-based participants who resume paying contributions" for each year refer to the number of those determined as such for the corresponding year.

Source: A Pre-Feasibility Study of the Contribution Subsidy Program for Low-Income Individual-Based National Pension Participants. P. 125. Korea Development Institute (2021).

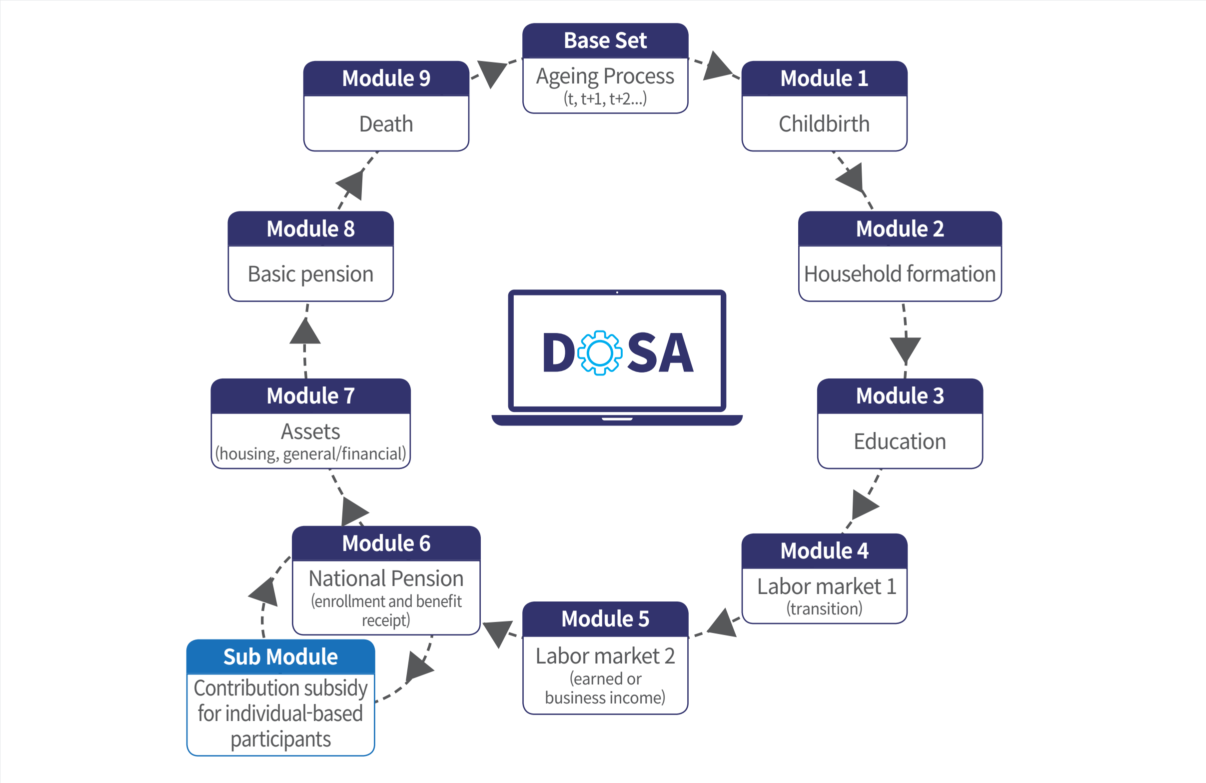
Analysis methodology and key assumptions: a microsimulation approach

This study used the Dynamic Microsimulation Outlook Model for Social Policy Analysis (DOSA) version 2.0. Taking as its inputs the socioeconomic characteristics of individuals and families, DOSA allows us to model various life-course events—childbirth, marriage, divorce, moving on in schooling to the next stage, entering the labor market, participating in a pension plan and receiving benefits from it, and asset accumulation—and captures, by estimating the probabilities of transition from one state to another, the experiential paths of individuals and families from the life-course perspective.

Technically, DOSA is a population model that produces simulations based on cross-sectional samples drawn from the whole population. It is also a dynamic model that comprises the aging process in which individuals, through interactions with one another, undergo probabilistic transitions between socioeconomic states.

The life-course events and relevant data sources that this study draws on for its DOSA simulations are as in Tables 3 and 4.

[Figure 1] Overall DOSA flowchart



Source: Ko, J *et al*. Dynamic Micro-simulation Outlook Model for Social Policy Analysis (DOSA): An Application to Old Age Income Support in Korea. KIHAS (2016); Author's recasting of Figure 4-3-2

[Table 3] The life-course events and the data (sources) used in DOSA

Module	Life-course events	Alignment set	Parameter set
Childbirth	Childbirth	4th Actuarial Review	Korea Labor Panel Survey
Household formation	Marriage	Population Dynamics Survey (Statistics Korea)	Population and Housing Census
	Divorce	Population Dynamics Survey (Statistics Korea)	
Education	Moving on to the next-stage schooling	Education data from the Korean Educational Development Institute	Korea Labor Panel Survey (up to the 20th wave)
	Moving on to college		
	Military service (enlistment and discharge)	Data from the Military Manpower Administration	

Labor market	Transition to economic activity	Economically Active Population Survey; Long-term Fiscal Outlook 2015 (Ministry of Economy and Finance)	Korea Labor Panel Survey (up to the 20th wave)
	Earned income		
National Pension	Enrollment and benefit receipt	Population Dynamics Survey; 4th Actuarial Review	Economically Active Population Survey; Supplementary Survey by Employment Type
Assets	Real estate, financial assets, debt		Financial Panel Survey (3rd ~ 7th waves)
Basic pension	Basic pension	-	-
Death	Death	4th Actuarial Review	

Note: "Assets" and "basic pension" are left unaligned, as there are no projected estimates made for them.

Source: Author's recasting of Table 4-43 from A Study on Restructure Strategies of the Income Security System: Focusing on Inter-institutional Linkage and Coordination. KIHASA (2020)

[Table 4] Perceptions about CSSC direction and objectives, in 7-point scale

	2017	2020	2025	2030	2035 and thereafter
NP participation rate	90.5	91.1	92.0	92.6	93.0
Individually-insured participants	36.4	33.5	30.5	28.2	26.4
Contribution collection rate for workplace-based participants	49.7	48.1	44.7	42.2	40.0
Contribution collection rate for individual-based participants	98.6				
Workplace-based	68.9	68.3	70.1	71.6	73.2
Rate of pension contribution payers	68.2	70.6	73.9	76.4	78.3

Note: (1) National Pension participation rate is the ratio of all participants (including those exempted from or not charged with contribution payment) to all economically active people; (2) The rate of pension contribution payers (row 7) is the ratio of contribution-paying participants (excluding those exempted from or not charged with contribution payment) to all economically active people

Source: National Pension Financial Projections Report (2018). National Pension Financial Projections Committee; A Study on Restructure Strategies of the Income Security System: Focusing on Inter-institutional Linkage and Coordination. pp. 181-333.

The assumptions employed in this study for the contribution subsidy program are based on the rules as applied currently to the program and on some other factors deemed relevant. For example, an eligible person is assumed to receive pension contribution subsidy for a maximum period of 12 months lifetime in two rounds, with each lasting a duration of about 6 months. This assumption is built on the fact that the unemployment credit scheme, similar in nature to the new contribution subsidy program, provides those eligible with its benefits for an average period of 3.4 months (or 56 percent of the period during which the unemployment allowance is paid to its beneficiaries). Also factored in is the fact that an estimated 26.3 percent of those who resume contribution payment discontinue paying into the pension scheme before the year end.

Simulation findings

Given that the contribution subsidy for individual-based participants was implemented as recently as earlier this year and that the latest National Pension financial projections cover the period up to 2088, this study carried out simulations for cohorts born between 1991 and 2021.

The impact of the contribution subsidy program on the pension receipt rate and on the total period of participation in the pension was estimated to be not of significant magnitude. The contribution subsidy was found to have such an impact as to add a mere 0.4 months to the contribution payment period and to increase the pension receipt rate by 0.1 to 0.2 percentage points for the whole population. For those eligible, the subsidy program was found to increase the contribution payment period by 8 months and the pension receipt rate by 1.0 to 3.6 percentage points.

[Table 5] Pension contribution periods and pension receipt rates with or without contribution subsidy (in %, % point, month)

Birth cohort	Percentage of those eligible	Number of contribution-paid months (for National Pension recipients)			Rate of pension receipt		
		Without contribution subsidy	With contribution subsidy	Increase	Without contribution subsidy	With contribution subsidy	Increase
1991 cohort	7.41	244.45	245.07	0.62	85.60	85.77	0.17
2001 cohort	7.08	251.01	251.58	0.57	87.77	87.84	0.07
2011 cohort	6.18	253.56	254.07	0.51	88.765	88.87	0.22
2021 cohort	6.71	252.37	252.92	0.55	89.36	89.55	0.19

Source: Author's configuration based on simulations

[Table 6] Pension contribution periods and pension receipt rates with or without contribution subsidy: for subsidy beneficiaries (in %, % point, month)

Birth cohort	Number of contribution-paid months			Rate of pension receipt		
	Without contribution subsidy	With contribution subsidy	Increase	Without contribution subsidy	With contribution subsidy	Increase
1991	193.78	202.24	8.46	79.41	81.74	2.33
2001	209.22	217.28	8.06	84.56	85.60	1.04
2011	199.41	207.64	8.23	79.65	83.16	3.51
2021	197.30	205.52	8.22	78.15	81.11	2.96

Source: Author's configuration based on simulations

The impact of the contribution subsidy program was found to be of small magnitude also on the amount of pension payments—barely an additional KRW1,000 a month (in 2019 constant prices) for the average National Pension recipient. The amount of additional pension benefit that a beneficiary of the contribution subsidy program can expect is less than KRW10,000 a month.

[Table 7] National Pension benefit amount with or without contribution subsidy (in KRW)

Birth cohort	Number of contribution-paid months			Non-beneficiaries	Rate of pension receipt		
	Without contribution subsidy	With contribution subsidy	Increase		Without contribution subsidy	With contribution subsidy	Increase
1991	536,460	537,032	572	544,393	431,984	440,084	8,100
2001	532,386	532,919	533	538,696	447,229	454,963	7,734
2011	531,341	531,780	439	537,363	433,292	440,884	7,592
2021	526,797	527,262	465	532,503	438,681	446,329	7,648

Source: Author's configuration based on simulations

The small magnitude of the impact of the contribution subsidy program may be due to the limited size of the group the program is designed to benefit and to the meager level of the subsidy and the insufficient maximum eligible period. That all those who are expected to be benefited from the contribution subsidy constitute as little as 7 percent of the cohorts considered in this study, as shown in Table 5, explains the insignificant impact of the program. If the subsidy program remained targeted only to those who file an application for resuming paying into the National Pension scheme, raising the subsidy level (by increasing the income ceiling at or below which the fixed rate of contribution subsidy is applied from the current KWR1 million to KRW2.3 million), increasing the maximum period of subsidy (from the current 12 months to 36 months) and increasing the proportion of those restarting to pay into the pension scheme by 30 percent or more would not result in a significant impact. In the case of all the three adjustments going into effect simultaneously, the period of pension contribution payments would be 8.6~11.2 months longer and the rate of pension receipt 0.3-to-3.0 percentage points higher than if the contribution subsidy remained as it is now. The monthly pension amount would be larger by KRW8,000 or so (in 2019 constant prices) than it would be if no adjustments were made to the current program. Meanwhile, it was found that an increased proportion of those resuming paying into the pension scheme would, if anything, decrease, although by a small fraction, the amount of pension benefits, as shown in Table 10. The amount of pension one is entitled to decreased by a small fraction under the scenario of an increased proportion of people resuming participation in the National Pension, as suggested in Table 10. This is to say that an increased proportion of people resuming contribution payment means more from low-income groups would be brought into the pension scheme, which, as a result, would, if to a small extent, decrease the amount of "A"[2]. average amount of all National Pension

[Table 8] The effect of adjustments to the contribution subsidy program on the period of pension contribution in subsidy recipients (in month)

Birth cohort	No subsidy (S0)	Current subsidy (S1)	Increased subsidy period (S2)	Increased rate of resumption (S3)	Increased subsidy level (S4)	Combined (S5)
1991	193.8	△8.5	▲11.2	▲0.2		▲11.1
2001	209.2	△8.1	▲9.1	▲0.1		▲9 .1
2011	199.4	△8.2	▲9.4	▲0.2		▲9.3
2021	197.3	△8.2	▲8.7	▲0.3		▲8.6

Note: (1) △ denotes increase due to the current contribution subsidy program; (2) ▲ denotes increase due to suggested adjustments to the current contribution subsidy program

Source: Author's configuration based on simulations

2) "A" refers to the average of standard monthly income for all National Income participants over the three years preceding the first receipt of National Pension benefit.

[Table 9] The effect of adjustments to the contribution subsidy program on the rate of pension receipt in subsidy recipients

Birth cohort	No subsidy (S0)	Current subsidy (S1)	Increased subsidy period (S2)	Increased rate of resumption (S3)	Increased subsidy level (S4)	Combined (S5)
1991	79.4	△2.3	▲2.1	▲0.6	-	▲0.3
2001	84.6	△1.0	▲3.0	▲0.7	-	▲1.1
2011	79.6	△3.5	▲1.0	▲0.0	-	▲2.5
2021	78.1	△3.0	▲0.3	▲0.0	-	▲2.1

Note: (1) △ denotes increase due to the current contribution subsidy program; (2) ▲ denotes increase due to suggested adjustments to the current contribution subsidy program

Source: Author's configuration based on simulations

[Table 10] The effect of adjustments to the contribution subsidy program on the pension amount for subsidy recipients

Birth cohort	No subsidy (S0)	Current subsidy (S1)	Increased subsidy period (S2)	Increased rate of resumption (S3)	Increased subsidy level (S4)	Combined (S5)
1991	43.2	△0.8	▲0.8	▼-0.04	▲0.2	▲0.8
2001	44.7	△0.8	▲0.7	▼-0.03	▲0.2	▲0.7
2011	43.3	△0.8	▲0.6	▼-0.02	▲0.2	▲0.7
2021	43.9	△0.8	▲0.6	▼-0.02	▲0.2	▲0.7

Note: (1) △ denotes increase due to the current contribution subsidy program; (2) ▲ denotes increase due to suggested adjustments to the current contribution subsidy program; (3) in 2019 constant prices

Source: Author's configuration based on simulations

Concluding remarks

This study suggests the need for increasing both the period and the amount of contribution subsidy to increase the program's old-age income security impact. The contribution subsidy program as it stands, effective though it might to some extent be in increasing the length of contribution-paying period of those for whom the program is intended, would not do much to increase the pension amount. Increasing the lifetime maximum number of subsidy-eligible months would increase the pension amount, but only to an insignificant extent if unaccompanied by measures to ease the eligibility criteria for applying for resumption of contribution payment. As shown in Table 8, even in a scenario where one is eligible to receive contribution subsidy for as many as 36 months (that is, 24 months more than the current maximum of 12 months), the period during which one actually receives the subsidy is longer by only 8.6 to 11.2 months than is expected from the current system. Also, increasing the period of contribution subsidy for eligible individuals, without the amount of subsidy raised, does not add much to the amount of pension one is to receive in old age. This is because, in this scenario, one's lifetime average income, based on which the pension amount is calculated, may decline as it factors in an increased period for which one's income is reported as sufficiently low for one to be eligible to receive the subsidy.

On the other hand, raising the eligible income ceiling alone, without increasing the period of subsidy, may prevent one's lifetime average income from falling, but would in effect work more to the benefit of those with relatively high reported income. Taken altogether, this suggests that any attempt to improve the contribution subsidy program for individual-based enrollees should involve increasing both the amount of subsidy and the maximum period of subsidy receipt.

In addition, the contribution subsidy program should be made available to a larger group of people. The results of the simulations undertaken in this study point to that, while for future generations both the rate of pension receipt and the level of pension benefits will not increase much, the number of beneficiaries of the contribution subsidy program will decline over time. The projection that those benefiting from the contribution subsidy program will shrink over time can be regarded to mean that as the National Pension matures, the percentage of low-income participants who come to experience temporary exemption from paying contributions will shrink, which does not mean, however, that the need for contribution subsidy is going away. Given their socioeconomic precariousness, low-income individuals, even as they maintain their status as "income reporters" and continue to pay into the National Pension scheme, nevertheless have a high possibility of falling short, in the end, of having a sufficient number of contribution-paid months under their belt. Policy efforts should continue with a view to increasing, by means of subsidy assistance, the number of contribution-paid months for individual-based National Pension participants who are economically vulnerable. Policymakers may also consider, as a way to enhance the impact of the contribution subsidy, making the new program available to a larger number of people.