

Research in Brief



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Income Protection Programs and Disposable Income Distribution in the 2010s

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Introduction: why the income distribution of the 2010s merits looking into

Trends and factors in income distribution have been put under analysis on a continued basis in Korea. Income distribution in Korea is known to have deteriorated in the period spanning the 1990s and the late 2000s. Some previous studies have attributed such deterioration mostly to the widening inequalities in the labor market. In comparison, however, there has been limited attention given to the 2010s, a period for which most indicators point to improvements in income distribution. Drawing on the Survey of Household Finances and Living Conditions, this study examines trends in income distribution in the 2010s and the effects on them of income protection programs.

Definitions and analysis methods

In this study, market income is defined as the sum of earned income, business income, capital income and private transfers. Disposable income is the sum of market income and public transfer income, net of taxes and social security contributions. All income data are converted,

by employing the consumer price index, to real income, with 2020 as the base year. Household income is equivalized—meaning, total household income divided by the square root of the number of household members—and then assigned to household members in order to take individuals as the unit of analysis. The poverty line is set at 50 percent of the median disposable income.

[Table 1] Income concepts defined

	2011	2012~2014	2015~2019
Market income	Earned income, business income, capital income, inter-family transfers, and transfers from non-profit institutions		
Public transfer	Public pension ¹⁾ , basic (old-age) income, disability-related benefits ²⁾ , Basic Living Security benefits ³⁾		
	Employment insurance benefits, industrial accident insurance benefits, agricultural and fishery subsidies, etc.	Child-related benefits ⁴⁾	Low-income workers' subsidy, home childcare allowance, etc.
Taxes and social security contributions	Tax and social insurance contributions		
Net public transfer	Public transfer income - tax and social insurance contributions		
Disposable income	Market income + net public transfers		

Note: 1) National Pension and special occupational pension schemes

2) Disability pension, disability allowance, disabled children's allowance, etc.

3) Cost-of-living allowance, household allowance, education allowance, funeral allowance, childbirth allowance, etc.

4) Child allowance, home childcare allowance, childbirth promotion allowance, income assistance to single parents, etc.

Source: Statistics Korea. Survey of Household Finances and Living Conditions (for each year).

Changes in key income protection programs

As Table 2 illustrates, old-age income protection schemes such as public pension and the basic pension have expanded steadily since the 2000s, with income assistance increasing for children and the working-age population in more recent years.

[Table 2] Changes in key income protection programs

Year	Changes
2000	-National Basic Living Security System implemented
2008	-Basic Old-age Pension (at a monthly amount of KRW84,000) implanted
2009	-Home childcare allowance (KRW100,000 a month) implemented for low-income families with a child 12 months old or younger -Low-income workers' subsidy implemented
2013	-Home childcare allowance extended to cover all families with children 5 years of age or younger, with the monthly amount increasing to KRW100,000~200,000
2014	-Basic Old-age Pension turned into Basic Pension, with the monthly amount increasing to KRW200,000
2015	-National Basic Living Security customized with the implantation of individualized benefit programs applying a relative poverty threshold
2018	-Basic Pension increased in monthly amount to KRW250,000 -Child allowance implemented with a monthly amount of KRW100,000, covering the bottom 90 percent of families with children aged 6 and younger
2019	-The monthly amount of Basic Pension raised stepwise to reach KWR300,000 by 2021, with a priority on low-income older adults -Home childcare allowance and low-income workers' subsidy increased with the eligibility criteria eased regarding age, income, assets -Child allowance extended to cover all families with children aged 7 and younger

Source: 1) Lee, T. J. et al. 2020. The Effects of the National Basic Livelihood Security System
 2) Ministry of Health and Welfare. Basic Pension Scheme Guide (for each year)
 3) Kim, M. G. et al. (2019). Study of Ways to Improve Child Allowance and Childrearing Support
 4) Kim, H. K. et al. (2020). Estimating the Effects of Key Income Protection Programs.

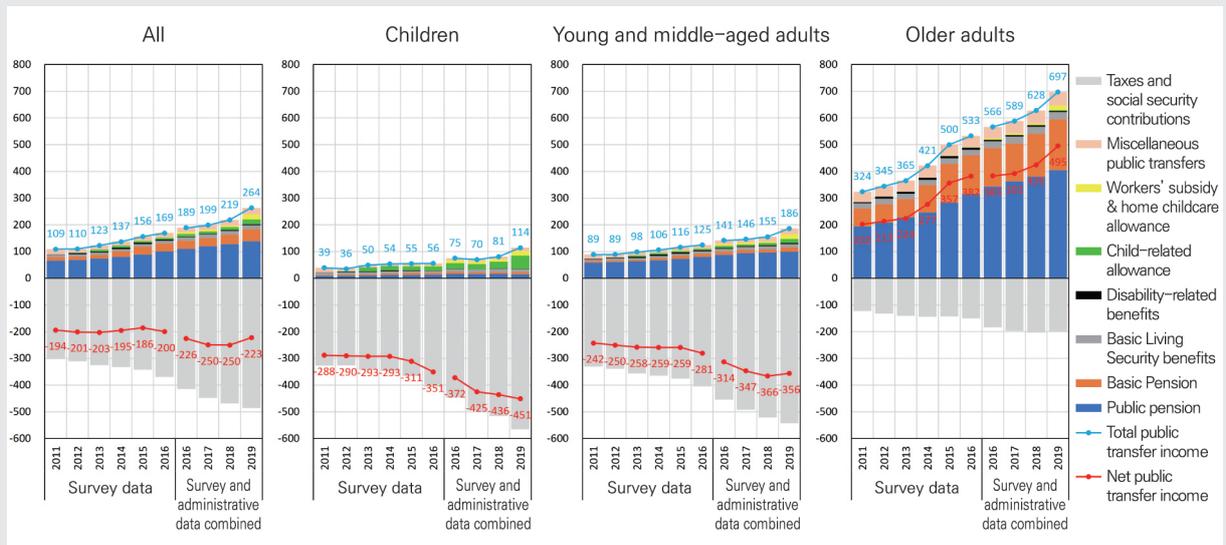
Public transfers and the changing distribution of disposable income

Figure 1 illustrates trends in public transfers, taxes, and social security contributions¹⁾. Per-capita public transfers amounted to KRW1.89 million per annum for the period 2016~2019, up from KRW1.69 million for the period 2011~2016. The strengthening of old-age income protection programs has driven the overall increase in the amount of public transfers. It is worth paying attention also to the effect of home childcare allowance, which was extended in 2013 to families of all income levels with children five years of age and younger. Other effects observed include those of the implementation in 2018 of child allowance and its expansion in 2019 and of the increase in 2019 in the amount of low-income workers' subsidy and home childcare allowance.

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1) Net public transfers in Figures 1 and 2 refer to public transfer income less taxes and social security contributions, both of which are indicated as negative values. The range of "miscellaneous" public transfers differs by year in scope as child-related benefits have been regarded as a distinct item since 2012 and low-income workers' subsidy and home childcare allowance since 2015.

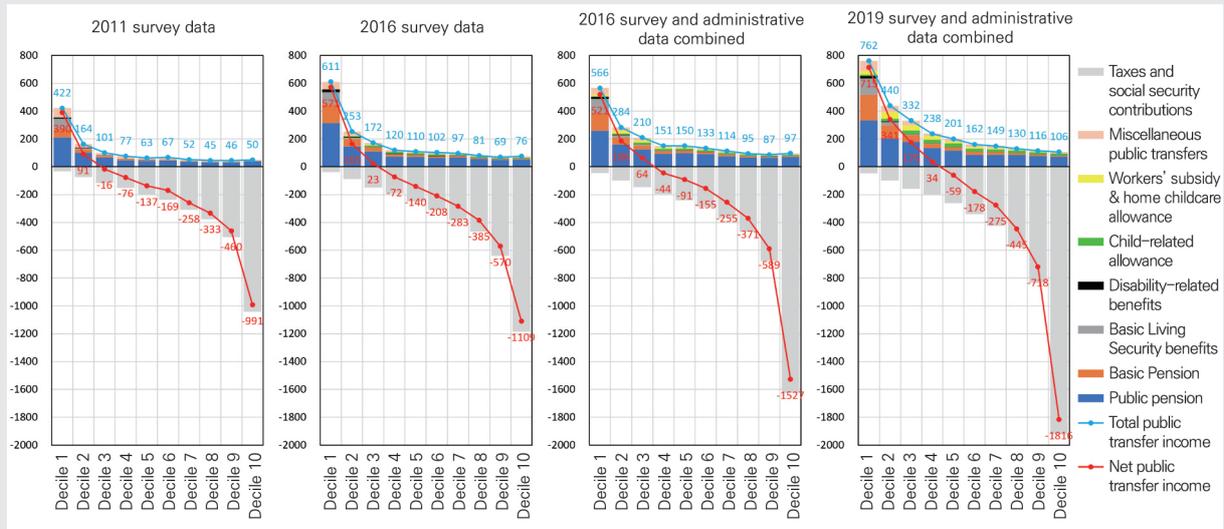
[Figure 1] Trends in public transfer income, tax, and social insurance contributions for children (0~17 yrs. of age), young and middle-age adults (18~64) and older adults (65+)



Source: Statistic Korea. Survey of Household Finances and Living Conditions (for each year)

Figure 2 shows trends in public transfers, taxes and social security contributions by market-income decile. Market income inequality has in part been offset by social security programs and taxation. Public transfer programs have become less selective over time, with the net value of transfers turning positive for deciles 1 and 2 in 2011, for deciles 1 through 3 in 2016, and for deciles 1 through 4 in 2019. Such changes are attributable in significant part to the recent increases in the amount of child-related allowances, low-income workers' subsidy and home childcare allowance.

[Figure 2] Trends in the average amount of public transfers, taxes, and social security contributions, by market-income decile (in KRW10,000; actual income 2020)



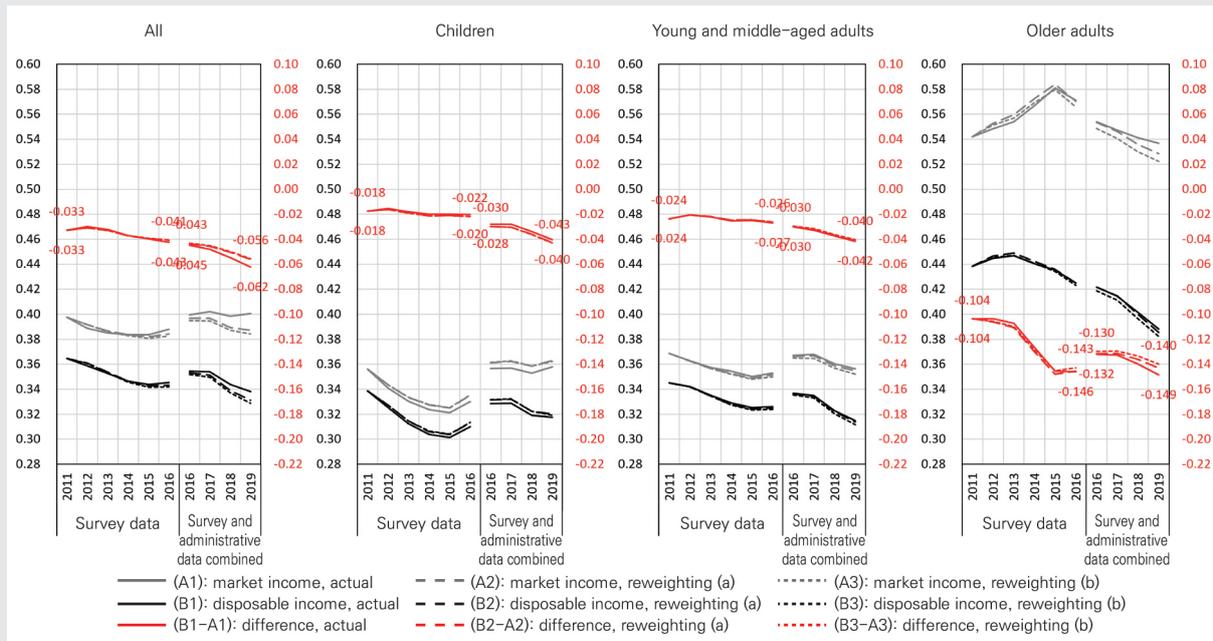
Note: Market income here refers to equivalized market income for each of the income deciles.

Source: KOSIS. (each year). Survey of Household Finances and Living Conditions

Figure 3 presents trends in the Gini coefficients for market income and disposable income. The actual distribution of income is presented in comparison with a hypothetical income distribution that controls for changes in the population and family structures. The hypothetical distribution is constructed using reweighting techniques. Suppose, for example, that the total population at time t1 and at time t2 is divided into several subpopulation groups, and the sample at t1 is reweighted so that the proportion of each subpopulation group is identical to the sample at t2. Then the difference between the hypothetical income distribution at time t2 and the actual distribution at time t1 indicates the effect of changes in income distribution within a subpopulation group, while the difference between the actual income distribution at time t2 and the reweighted hypothetical at time t2 represents the effect of changes in the percentage of the subpopulation. The reweighting factor that keeps the proportion of a subpopulation in the sample at time t (T=t) identical to the proportion in the sample at time t1 (T=1) can be computed as thus. If the total population is divided into several subpopulations ($G=g$), $\psi_{G=g} = \Pr_{G=g}^{T=1} \div \Pr_{G=g}^{T=t}$, where $\Pr_{G=g}^{T=1}$ denotes the population share of gth group at T=1 and $\Pr_{G=g}^{T=t}$ denotes the population share of gth group at time T=t.

The analysis shown in Figures 3 and 4 presents outcomes generated from the reweighting of distribution of household types²⁾ to match the estimates for 2011, and the product of sex, age³⁾ and household type distribution as reweighted to match the 2011 data.

[Figure 3] Trends in market and disposable income, by age group (0~1)



Note: In “reweighting (a)”, the hypothetical distribution of household types is estimated by reweighting the data for each year to match the distributions observed in the 2011 data; “reweighting (b)” is the reweighting the joint distribution of age, sex, and household type to match the 2011 data.

Source: Statistics Korea. Survey of Household Finances and Living Conditions (for each year)

No improvements have been observed in the distribution of market income for the population as a whole, while, in consequence of the expansion of income protection programs and tax policies, there have been improvements in the distribution of disposable income. Meanwhile, the ongoing demographic aging and family-structure changes exacerbated income inequality across the whole population. Looked at by age group, income inequality was higher for older adults than for children or young and middle-aged adults, for whom the redistributive effect of net public transfers was relatively small. In the years between 2017 and 2019, however, there was a considerable increase in the redistributive effect of net

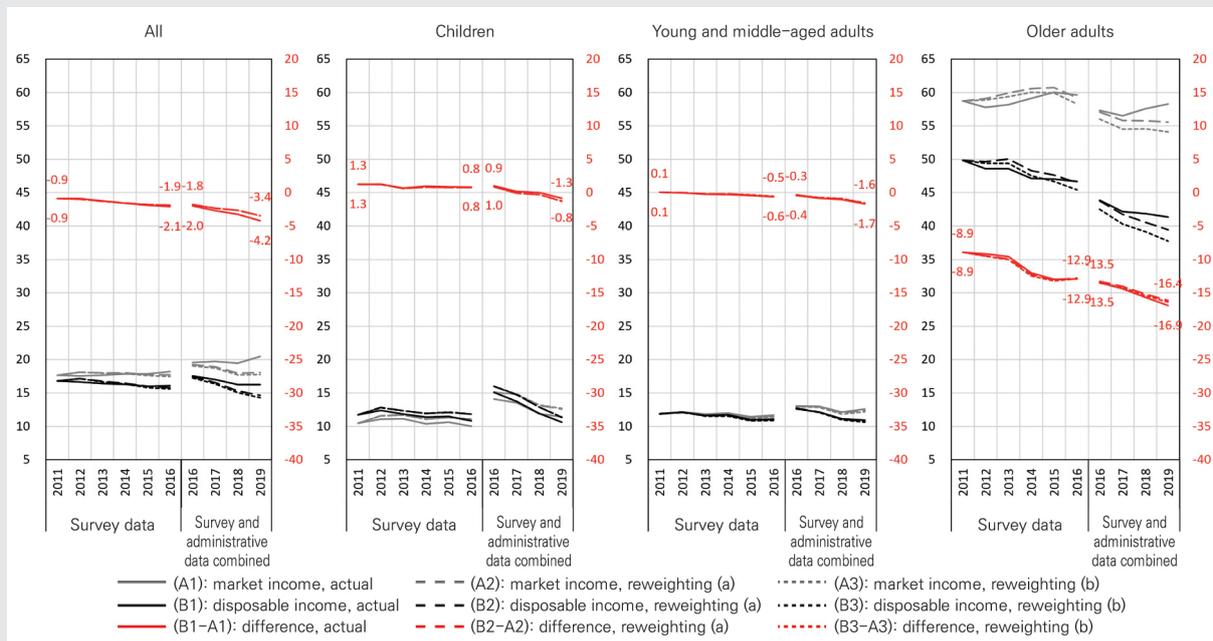
2) This study grouped all households into ten household types: ‘children in couple households’, ‘children in non-couple households’, ‘working-age adults living without children or older adults’, ‘working-age adults living with children but with no older adults’, ‘working-age adults living with older adults but without children’, ‘working-age adults living with children and older adults’, ‘older adults with a spouse present living with children’, ‘older adults with no spouse present living with children’, ‘older adults with a spouse present living without children’ and ‘older adults with no spouse present living without children’.

3) The age brackets used are ‘0-6’, ‘7-17’, ‘18-25’, ‘26-39’, ‘40-49’, ‘50-64’, ‘65-74’, and ‘75+’

public transfers for children and young and middle-aged adults, as allowance programs for those populations expanded. Observed cross-sectionally, in older adults, income inequalities were prominent and the redistributive effect of net public transfers was relatively substantial. Having risen up until 2015, market income inequality among older adults declined from the year after onward. Over time, with the expansion of income protection programs, older adults saw inequality in their disposable income distribution decline.

Figure 4 presents trends in the market-income and disposable income poverty rates. There has been a steady rise in the market-income poverty rate due to the increasing share of the old-age population and changes in family structures. Here again, however, the disposable-income poverty rate declined as the redistributive effect of net public transfer income increased. Poverty rates were lower in children and young and middle-aged adults than in older adults and, as such, the poverty-reducing effect of income protection programs and taxes was more significant in the old-age population. The old-age poverty rate declined from 49.8 percent to 46.7 percent over the period 2011~2016 (based on survey data), and from 43.9 percent to 41.4 percent over the period 2016~2019 (based survey and administrative data combined).

[Figure 4] Trends in market-income and disposable-income poverty rates, by age group (in % and % point)

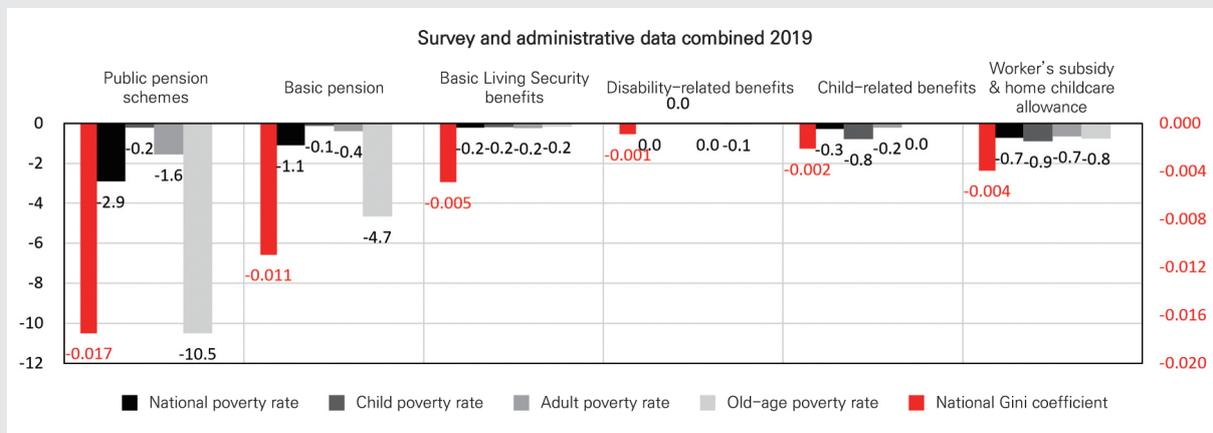


Note: In “reweighting (a)”, the hypothetical distribution of household types is estimated by reweighting the data for each year to match the distributions observed in the 2011 data; “reweighting (b)” is the reweighting the joint distribution of age, sex, and household type to match the 2011 data.

Source: Statistics Korea. Survey of Household Finances and Living Conditions (for each year)

Of all income protection programs, public pension has been the source of the largest, and still growing, income-redistributive effect on income distribution. Second to public pension in the size of redistributive effect is Basic Pension. Meanwhile, an increasing redistribute effect has been observed in recent years in child-related benefits, low-income workers' subsidy and home childcare allowance. Child-related benefits were found to have reduced the national poverty rate by 0.3 percentage points in 2019. The redistributive effect of low-income workers' subsidy and home childcare allowance has been such that it reduced the national poverty rate by 0.7 percentage points in the same year, outstripping the poverty-reducing effect of the National Basic Living Security System.

[Figure 5] Redistributive effects of various public transfer income in 2019, in terms of Gini coefficient (0~1) and poverty rate (% points)



Source: Statistics Korea. Survey of Household Finances and Living Conditions (for each year)

Recap and concluding remarks

Since 2000, when the National Basic Living Security Scheme was implemented, Korea's income protection has been growing, driven in large part by the expanding coverage of such old-age income protection programs as public pension schemes and the basic pension. The National Pension has entered a maturation stage, and the basic pension, introduced in 2008, has of late increased its monthly benefit amount to KRW300,000. The strengthening over time of old-age income protection has reduced the old-age poverty rate in the years between 2011 and 2019, offsetting the increases in market-income poverty brought on by such changes in family structures as a decline in older adults living with grown-up children and demographic changes like increases in the population aged 65 and older.

This study views that had there been no demographic and family structure changes of the sorts

described above, the distribution of market-income would have improved steadily. It is construed also that, absent such changes in the population and family structures, the distribution of disposable income would have improved more rapidly by the expansion of social security and taxation. Social security programs and tax policies should be further expanded as the population keeps aging and changes in family structure continue, exacerbating the distribution of market income.

With income assistance programs having grown for children and the working-age population since the mid-2010s, Korea's income protection system may already be in transition from quantitative expansion to qualitative changes. Child-related benefits with universal coverage have grown substantially lately, with childcare allowance transitioning in 2013 to a universal program and the implementation in 2018 of child allowance. In 2019, low-income workers' subsidy and home childcare allowance have expanded a great deal with the easing of eligibility criteria regarding age, income, and assets. As Various income assistance programs are being delivered on a growing scale, extending beyond the traditional social welfare programs whose role was in eradicating "dire poverty" and facilitating "vertical redistribution", there is a need for rigorous discussions about an optimal mix of those programs on which to run Korea's income protection system.