

Recent Trends in Income Distribution in Korea, Including Single-Person Households

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1. Introduction

The year 2018 may be remembered as a mixed bag when it comes to income. It was the year that Korea became the 7th country in the world to have a population of over 50 million and a per capita income of more than USD 30,000. At the same time, it was a year marked by a considerable worsening of income distribution, as the outcome of Statistics Korea's Household Income and Expenditure Survey suggested.

Statistics Korea revealed that while the first quarter of 2018 saw a 3.7 percent increase year-on-year in overall household income, the income of the first quintile declined by 8.0 percent and that of the top quintile increased by 9.3 percent, widening the inequality gap.

The question then arises: Are Statistics Korea's quintile data an accurate representation of income distribution in Korea? The answer may not be entirely affirmative on two accounts. First, the data concerned do not take enough into account single-person households, which have of late been on the rapid increase. Second, as income levels and consumption patterns vary depending on household characteristics, as is widely acknowledged, estimating the income of fifth quintile without controlling for household size runs the risk of placing a segment of high-income households with one or two members into a lower quintile.

This study aims to look at how taking into account one-person households and controlling for household size affect Statistics Korea's income distribution estimates. It is important to note that any set of income data that takes no account of single-person households runs the risk of misrepresenting the information the government needs when making decisions about social safety nets.

2. Income distribution across households in Korea, single-person households included

a. Income distribution

Lately, Statistics Korea has made public the findings of its Household Income and Expenditure Survey for the 1st quarter of 2019 (Press Release, May 23, Statistics Korea). The data concern households with two or more members. Table 1 shows that income inequality has slightly narrowed as the income of the top quintile declined by 2.2 percent year-on-year while the income of the bottom quintile declined by 2.5 percent.

What difference does taking single-person households into account make to income distribution? As shown in the bottom half of Table 1, the mean household income, with single-person households counted in, grew year-on-year by 0.9 percent for the first quintile and declined by 1.1 percent for the fifth quintile. The mean current income of the first quintile declined by 1.7 percent for households with two or more members but increased by 2.5 percent when single-person households were counted in. The mean employment income of the first

quintile increased or decreased depending on whether or not single-person households were taken into account. The same went for the mean business income. This suggests that any income measures that do not take into account single-person households could provide a misleading signal to policymakers.

[Table 1] Mean monthly household income in KRW thousands and in % of increase year-on-year (1st quarter, 2019)

SK ¹⁾	1st quarter, 2019											
	All		1 st quintile		2 nd quintile		3 rd quintile		4 th quintile		5 th quintile	
No. of HM ²⁾	3.05		2.39		2.81		3.20		3.42		3.42	
Age of HH ³⁾	53.4		63.3		54.6		50.2		48.8		50.2	
	A ⁴⁾	RC ⁵⁾	A	RC								
Income	4,826.3	1.3	1,254.7	-2.5	2,843.7	4.4	4,238.7	5.0	5,863.1	4.4	9,925.0	-2.2
CI ⁶⁾	4,802.9	1.7	1,253.7	-1.7	2,832.8	4.6	4,224.0	5.2	5,846.8	5.0	9,850.7	-1.8
EI ⁷⁾	3,220.8	0.5	404.4	-14.5	1,533.8	1.9	2,633.0	4.1	4,116.7	6.6	7,410.9	-3.1
BI ⁸⁾	892.2	-1.4	207.2	10.3	617.9	-2.2	961.2	3.6	1,034.2	-6.3	1,639.3	-1.9
PI ⁹⁾	16.5	-26.0	11.1	-37.8	16.5	-8.9	14.9	-20.2	12.4	-51.9	27.8	-11.4
TI ¹⁰⁾	673.4	14.2	631.0	5.6	664.6	20.2	614.9	13.6	683.5	18.4	772.8	13.8
PuTr ¹¹⁾	433.9	23.8	451.7	15.7	443.4	27.4	398.7	25.1	386.1	37.0	489.6	18.3
PrTr ¹²⁾	239.5	0.3	179.3	-13.5	221.2	8.1	216.3	-2.8	297.4	0.6	283.2	6.9
Non-CI ¹³⁾	23.4	-43.5	1.1	-90.3	10.9	-27.5	14.7	-20.9	16.3	-63.7	74.3	-37.2
Non-CE ¹⁴⁾	1,79.3	8.3	286.7	-0.9	568.5	8.1	876.1	9.2	1,295.3	16.8	2,362.3	5.0
DI ¹⁵⁾	3,748.0	-0.5	968.1	-3.0	2,275.2	3.6	3,362.7	4.0	4,567.7	1.4	7,561.7	-4.3
KIHASA ¹⁶⁾	1st quarter, 2019											
	All		1 st quintile		2 nd quintile		3 rd quintile		4 th quintile		5 th quintile	
No. of HM	2.45		1.39		1.87		2.58		3.13		3.31	
Age of HH	55.2		67.3		58.7		51.3		48.9		49.7	
	A	RC	A	RC	A	RC	A	RC	A	RC	A	RC
Income	3,950.3	1.6	658.0	0.9	1,797.6	1.4	3,238.7	4.8	5,017.5	4.7	9,029.5	-1.1
CI	3,925.6	2.0	656.9	2.5	1,792.2	2.0	3,224.8	4.8	5,004.7	5.2	8,939.5	-0.8
EI	2,576.9	1.2	106.7	7.7	814.8	-3.8	1,896.8	0.9	3,410.0	9.4	6,648.0	-2.0
BI	707.8	-2.5	41.9	-13.9	326.0	7.3	690.6	5.2	999.1	-6.5	1,480.0	-4.5
PI	14.3	-24.7	5.2	-47.1	13.0	-10.2	13.2	-27.4	13.4	-39.0	26.4	-13.8
TI	626.6	12.2	503.0	4.2	638.4	7.8	624.1	19.5	582.2	5.7	785.1	21.6
PuTr	393.2	21.5	334.8	12.1	404.1	17.0	391.0	23.7	338.0	18.0	497.7	33.7
PrTr	233.5	-0.6	168.2	-8.7	234.4	-5.1	233.1	13.1	244.2	-7.6	287.4	5.2
Non-CI	24.7	-35.8	1.1	-90.8	5.4	-66.7	13.9	-6.3	12.8	-60.2	89.9	-23.4
Non-CE	898.3	9.9	163.1	8.2	367.6	3.9	674.2	11.4	1,104.9	13.8	2,179.2	8.8
DI	3,052.0	-0.6	494.9	-1.4	1,429.9	0.7	2,564.5	3.2	3,912.6	2.5	6,850.3	-3.9

Note: 1) Statistics Korea (Households with two or more members); 2) Number of household members; 3) Age of household head; 4) Amount; 5) Rate of change; 6) Current income; 7) Employment income; 8) Business income; 9) Property income; 10) Transfer income; 11) Public transfer; 12) Private transfer; 13) Non-current income; 14) Non-consumption expenditure; 15) Disposable income; 16) Korea Institute for Health and Social Affairs (For all households including single-person households)

Now, what difference does adjusting for household size (by dividing household income by the square root of the number of members in the household) make to Statistics Korea's estimates? When adjusted for household size and with single-person households counted in, the first quintile's mean household income was 0.4 percent lower in the first quarter of 2019 than it was in the same quarter a year earlier; the mean household disposable income of the same quintile increased by 0.2 percent. Measured in these terms, the first quintile is estimated to have seen declines of varying degrees year-on-year in most of the market income categories examined here.

[Table 2] Average monthly income per household, by income quintile in KRW thousands and in % of increase year-on-year (1st quarter, 2019, equivalised disposable income)

	1 st quarter 2019											
	All		1 st quintile		2 nd quintile		3 rd quintile		4 th quintile		5 th quintile	
No. of HM ¹⁾	2.45		1.64		2.30		2.70		2.86		2.77	
Age of HH ²⁾	55.2		66.3		58.1		52.1		49.3		50.2	
	A ³⁾	RC ⁴⁾	A	RC								
Income	2,701.6	1.8	751.0	-0.4	1,662.0	4.8	2,370.8	4.2	3,233.3	5.3	5,483.4	-1.8
CI ⁵⁾	2,686.6	2.1	732.6	-0.5	1,654.3	5.3	2,363.8	5.2	3,220.6	5.4	5,454.2	-1.5
EI ⁶⁾	1,804.4	0.9	221.8	-12.5	957.0	9.4	1,574.7	4.7	2,236.9	1.9	4,025.8	-2.0
BI ⁷⁾	493.1	-1.3	123.4	-3.4	351.8	-11.2	460.6	0.6	633.1	14.5	895.4	-6.9
PI ⁸⁾	8.6	-25.9	5.8	-26.6	6.3	-36.6	6.4	-19.3	7.3	-22.3	17.4	-24.3
TI ⁹⁾	380.5	14.7	381.6	9.9	339.2	16.8	322.1	16.2	343.4	15.6	515.7	15.6
PuTr ¹⁰⁾	237.5	26.5	255.6	20.8	211.2	29.6	201.4	33.9	199.2	24.0	319.7	26.5
PrTr ¹¹⁾	143.0	-0.6	126.0	-7.0	128.0	0.5	120.7	-4.8	144.2	5.6	195.9	1.4
Non-CI ¹²⁾	15.0	-38.0	18.4	1.4	7.7	-49.1	7.1	-74.4	12.7	-23.3	29.2	-33.3
Non-CE ¹³⁾	285.9	5.0	45.7	-7.2	130.6	13.3	219.2	7.4	340.9	15.9	691.9	-0.9
DI ¹⁴⁾	2,401.2	1.8	689.3	0.2	1,523.7	4.7	2,144.6	4.9	2,879.8	4.3	4,762.3	-1.6

Source: Household Income and Expenditure Survey, Statistics Korea (1st quarter, 2019)

Note: 2) Number of household members; 2) Age of household head; 3) Amount; 4) Rate of change; 5) Current income; 6) Employment income; 7) Business income; 8) Property income; 9) Transfer income; 10) Public transfer; 11) Private transfer; 12) Non-current income; 13) Non-consumption expenditure; 14) Disposable income

The mean income for households across all quintiles with two or more members grew on average by 1.3 percent year-on-year in the first quarter of 2019. With single-person households counted in, the increase was 1.6 percent in income and 1.8 percent in equivalised income.

The mean income of the middle quintile increased year-on-year in the first quarter of 2019 by 5.0 percent for households with two or more members and by 4.8 percent for all households. In equivalised figures, the mean household income of the middle quintile was 4.2 percent higher in first quarter of 2019 than in the same quarter the previous year. The first quintile saw a 2.5-percent decline in income for households with two or more members. With single-person households counted in, however, the income of the bottom fifth in the first quarter of this year was 0.9 percent higher year-on-year in non-size-adjusted terms and 0.4 percent lower in size-adjusted terms year-on-year.

Table 3 shows that the only households that saw their earned income (employment and business income) increase year-on-year in the first quarter of 2019 were those with a head 34 or younger. The rate of increase in the mean income of households with heads of this age range was much higher when single-person households were taken into account. However, the rest of the households, especially those with heads 65 and older, saw their earned income decline steeply. Temporary-employed, unemployed or economically inactive younger household heads also saw their income decrease significantly.

[Table 3] Earned incomes of households with heads of different ages (1st quarter, 2019), in KRW thousands, % year-on-year)

	Employment and business income		
	Statistics Korea (households with two or more members)	Statistics Korea (with single-person households counted in)	Equivalised (with single-person households counted in)
34 or younger	9.2	42.9	-4.0
35~49	-5.6	-24.8	-11.0
50~64	-4.5	-5.8	-2.7
65 or older	-23.6	-5.8	-15.0

Source: Household Income and Expenditure Survey, Statistics Korea (1st quarter, 2019)

The discussion thus far points to how the income statistics as they are released by Statistics

Korea, without taking into account single-person households, do not to a sufficient degree help identify the characteristics of the first quintile.

b. Characteristics of the first income quintile, with single-person households counted in

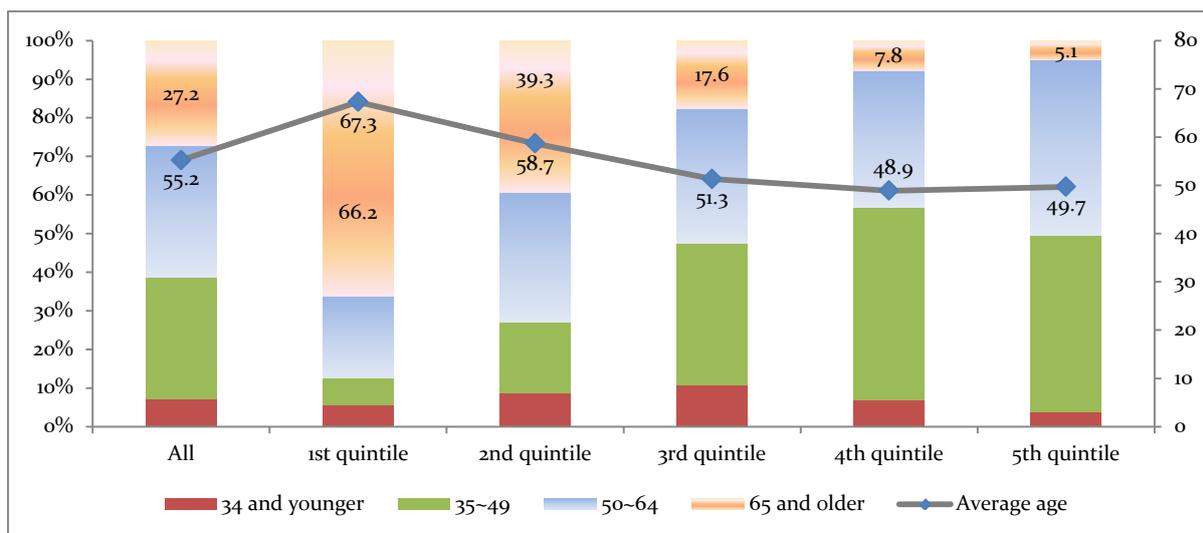
One of the salient features of the first quintile is that the mean age of household heads in it is higher than the mean age of household heads in any other quintile.

[Table 4] Age of household heads (including single-person households)

	1st quarter, 2017				
	Average age	34 or younger	35~49	5--64	65 or older
All	53.7	8.4	36.2	29.1	26.3
First quintile	67.3	3.6	7.9	20.7	67.8
	68.8	2.6	6.4	19.0	71.9
	65.8	4.7	9.3	22.3	63.8
Second quintile	55.9	12.1	22.3	30.0	35.6
Third quintile	50.4	12.9	38.7	31.3	17.2
Fourth quintile	47.0	8.5	56.7	28.9	5.9
Fifth quintile	48.0	4.8	55.4	34.5	5.3
	1st quarter, 2018				
	Average age	34 or younger	35~49	5--64	65 or older
All	54.7	8.1	32.6	32.2	27.2
First quintile	67.9	5.5	5.6	19.2	69.7
	69.2	5.1	5.0	18.1	71.8
	66.6	5.9	6.3	20.2	67.6
Second quintile	57.6	10.1	19.4	32.4	38.2
Third quintile	50.6	12.1	39.1	31.9	17.0
Fourth quintile	48.5	7.6	50.3	34.5	7.6
Fifth quintile	48.8	4.9	48.4	42.9	3.7
	1st quarter, 2019				
	Average age	34 or younger	35~49	5--64	65 or older
All	55.2	7.1	31.6	34.2	27.2
First quintile	67.3	5.5	7.0	21.4	55.2
	67.7	6.1	7.2	20.6	66.0
	67.0	4.8	6.7	22.1	66.4
Second quintile	58.7	8.6	18.6	33.5	39.3
Third quintile	51.3	10.8	36.6	35.0	17.6
Fourth quintile	48.9	6.9	49.8	35.5	7.8
Fifth quintile	49.7	3.7	45.9	45.3	5.1

Source: Household Income and Expenditure Survey, Statistics Korea (for each quarter)

[Figure 1] Average age of household heads; distribution of household heads by age (1st quarter, 2019)



Source: Household Income and Expenditure Survey, Statistics Korea (1st quarter, 2019)

Of all household heads in the first quintile, those 65 and older accounted for 67.8 percent in the first quarter of 2017, 69.7 percent in the first quarter of 2018, and 66.2 percent in the first quarter of 2019. That the first quintile has the highest proportion of household heads 65 and older is indicative to some extent of the fact that the prevalence of old-age poverty is higher in Korea than in just about any other OECD country. Household heads in the bottom 10 percent of income distribution were on average 67.7 years of age, with those 65 and older accounting for 66.0 percent. It is obvious indeed that, for household heads in the first quintile, it is difficult to find opportunities to increase their income by participating in the labor market.

Those unemployed or economically inactive accounted for most of the household heads in the first quintile (74.5 percent for the first quarter of 2017, 80.2 percent for the first quarter of 2018 and 77.0 percent for the first quarter this year), which accords with the fact that the average age of household heads in the first quintile is over 65 years. The year-on-year decrease in the mean income of the first quintile in the first quarter of 2018 can in part be attributed to the increase in those unemployed or economically inactive as a share of household heads in the bottom 20 percent of income distribution. The increase—albeit small—in income that households in the first quintile saw in the first quarter of 2019 can be attributed to some extent to an increase year-on-year—if not to 2017 levels—in temporary and daily employment.

[Table 5] Percentage distribution by economic status of household heads (single-person households included)

	1st quarter, 2017							
	Permanent	Temporary	Daily	Employer	Self-employed	Unpaid	Other	Unemployed
All	38.8	12.1	4.8	3.3	13.7	-	1.5	25.8
1st quintile	1.5	13.1	5.5		4.3	-	1.1	74.5
1st decile	0.6	9.9	2.1		2.1	-	0.4	85.0
2nd decile	2.4	16.4	8.9		6.5	-	1.8	64.1
2nd quintile	20.6	21.7	8.2	1.8	16.4	-	2.3	29.0
3rd quintile	41.4	14.9	6.1	4.3	17.4	-	1.0	15.0
4th quintile	57.7	8.0	2.3	5.7	17.6	-	2.2	6.5
5th quintile	72.8	2.5	2.0	4.8	13.0	-	0.9	4.0
	1st quarter, 2018							
	Permanent	Temporary	Daily	Employer	Self-employed	Unpaid	Other	Unemployed
All	38.7	9.7	4.3	4.6	12.7	0.1	1.3	28.7
1st quintile	1.2	8.4	4.1	0.3	5.5	-	0.4	80.2
1st decile	0.6	4.8	2.1	0.2	2.6	-	0.1	89.7
2nd decile	1.9	12.0	6.2	0.3	8.4	-	0.6	70.7
2nd quintile	20.6	17.3	9.3	1.3	13.1	-	1.7	36.6

3rd quintile	43.6	13.5	4.5	5.6	17.0	0.2	1.0	14.7
4th quintile	55.6	5.7	2.7	8.5	17.8	-	1.8	7.9
5th quintile	72.4	3.5	1.0	7.4	10.2	-	1.4	4.2
	1st quarter, 2019							
	Permanent	Temporary	Daily	Employer	Self-employed	Unpaid	Other	Unemployed
All	38.9	10.7	3.9	5.0	12.0	0.0	1.4	28.0
1st quintile	1.2	11.4	4.8	0.4	5.2	-	0.1	77.0
1st decile	0.2	6.7	4.0	-	2.8	-	0.1	86.2
2nd decile	2.1	16.1	5.6	0.8	7.6	-	0.1	67.8
2nd quintile	20.5	18.9	7.6	2.2	15.4	-	0.9	34.6
3rd quintile	43.2	13.4	4.6	5.4	16.2	-	1.6	15.7
4th quintile	59.0	7.0	1.9	8.2	14.8	0.2	1.6	7.3
5th quintile	70.7	3.0	0.8	8.6	8.4	0.0	3.0	5.5

Source: Household Income and Expenditure Survey, Statistics Korea (for each quarter)

Benefits paid to households in the first quintile have increased in the last three years. For example, the amount of basic pension has increased by 18.6 percent from KRW136.8 thousand in the first quarter of 2017 to KRW162.3 thousand in the first quarter of 2019. The average amount of social benefits—including unemployment benefits, basic social security benefits and disability pension—that households in the first quintile receive has increased from KRW63.7 thousand in the first quarter of 2017 to KRW71 thousand in the first quarter of 2019. Public transfers have been useful as a safety net income source for many households in the first quintile with declining market incomes. The impact of basic pension is thought to have been especially significant given that the first quintile is composed mostly of households led by people 65 and older.

[Table 6] Public transfers, on all-household average and by quintile (in KRW thousands per month)

	1st quarter, 2017				
	Public pension	Basic pension	Social benefits	In-kind transfer	Tax returns
All households	142.2	51.4	58.5	12.1	40.7
First quintile	82.7	136.8	63.7	16.0	0
1st decile	52.1	140.7	43.1	12.4	0
2nd decile	113.1	133.0	84.2	19.7	0
Second quintile	162.3	62.0	69.0	17.0	2.3
Third quintile	202.0	31.9	66.0	15.2	19.5
Fourth quintile	133.1	15.7	63.6	9.9	47.9
Fifth quintile	130.6	10.8	30.4	2.6	133.5
	1st quarter, 2018				
	Public pension	Basic pension	Social benefits	In-kind transfer	Tax returns
All households	154.7	51.1	53.0	13.5	48.4
First quintile	83.2	141.0	61.2	13.3	0.1
1st decile	43.1	141.7	33.4	7.2	0
2nd decile	123.2	140.3	88.9	19.3	0.1
Second quintile	172.8	72.3	78.3	18.3	1.7
Third quintile	200.3	31.7	50.0	18.0	16.2
Fourth quintile	156.2	14.0	50.1	10.8	55.4
Fifth quintile	161.1	10.0	25.4	7.0	168.6
	1st quarter, 2019				
	Public pension	Basic pension	Social benefits	In-kind transfer	Tax returns
All	176.3	67.7	81.7	12.8	54.6
First quintile	86.2	162.3	71.0	15.3	0
1st decile	47.1	151.8	41.7	9.2	0
2nd decile	125.3	17.8	100.4	21.5	0
Second quintile	189.3	96.0	97.0	19.8	2.0
Third quintile	226.0	41.7	90.7	12.9	19.7
Fourth quintile	156.5	23.0	82.5	10.8	65.2
Fifth quintile	223.5	15.6	67.5	5.3	185.8

Source: Household Income and Expenditure Survey, Statistics Korea (for each quarter)

3. Concluding remarks

Using data from Statistics Korea's Household Income and Expenditure Survey, this study looked briefly at trends in household income, and in particular in first-quintile household income. To better understand the limitations of Statistics Korea's data on households with two or more members, we examined household income trends that take into account single-person households.

The findings can be summarized as follows. First, household heads in the first quintile were mostly over 65 years of age. Those 65 and older accounted for over 65 percent of all household heads in the bottom quintile. Those aged 50~64 accounted for a little more than a fifth. A little more than a tenth of these household heads were 49 and younger. This suggests that measures of support targeting the first quintile should be designed bearing in mind the characteristics of households headed by people 65 and older.

Second, the income of the first quintile increased, although to a small extent, over the observed period. In terms of market income, however, households in the bottom 20 percent of income distribution saw a decline even as the government since last September has been active in strengthening social safety nets and publicly-financed employment programs targeted to older people. As households in the first quintile are mostly headed by people 65 and older, who by definition are regarded among the economically inactive, their income situation is unlikely to improve without stronger social safety net measures.

A recent national finance strategic meeting, held earlier this year, decided to soon abolish the existing family support obligation rule, whereby National Basic Social Security benefits are kept beyond the reach of low-income people who have someone in their family who is deemed able to support them. The restriction will be lifted first for low-income people with severe disabilities, and earned income tax credits will be provided to able-bodied, working-age individuals. Given, however, that households in the first quintile are mostly headed by people 65 and older, the decision made in the national finance strategic meeting seems insufficient to cover enough of those who need income support. The rest, who account for 20-30 percent of the first quintile, are in need of strengthened social safety nets that incorporate employment programs involving both the private and public sectors.