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Analysis of Income and Consumption Structures by Class and Job Category

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Introduction



Chapter 1_Introduction

Chapter 1 Introduction

Section 1. Need for and Objectives of Study

After two economic crises, the objective and subjective proportion of the middle class is on the decrease. According to a survey by the Seoul National University Institute of Social Development¹), asking what they think would be their social standings in 2007 compared to before the 1997 Asian financial crisis, the proportion of respondents regarding themselves as middle class dropped sharply from 41.1% in 1997 to 28% in 2007. The Urban Household Survey by the National Statistical Office (NSO) also suggests that the proportion of middle class reached its peak at 75.2% in 1992 and declined gradually to 63.3% in 2008. In fact, the ratio of household debt to disposable income stood at 143% in 2009, a 1.6-times increase from 2007 (87.4%). Along with the United Kingdom (161%) and Australia (155%), Korea's figure is one of the world's highest and far higher than that of the US's 128.2% (Lee Eun-mi, 2011). The net personal saving ratio also plunged around the time of the financial crisis, with the average consumption propensity also declining proportionally.

¹⁾ The Dong-A Ilbo, "10 years after Asian financial crisis: How public perception has changed," front page, Nov. 12, 2007.



[Figure 1-1] Real market income and real current income trends





Through wide-ranging theoretical reviews and empirical analyses, this study aims to examine in depth how household income and consumption behaviors have changed over the past 20 years and thereby draw implications for the development of alternatives and directions for future social welfare policies.

Section 2. Outline and Methodology of Study

This study is comprised of five chapters. Chapter 1 specifies the objectives, outline and methodology of this study. Chapters 2 and 3 utilize raw data from the NSO Household Survey to analyze the income and consumption expenditure of standard four-person households over the 20 years between 1990 and 2010. Chapter 3 analyzes changes in real market and ordinary incomes by quintile and examines poverty and inequality trends. Also. the contributions of individual income sourceshouseholder income, household member income, property income, private transfer income and public transfer income - to the levels of household inequality to see how the mix of household income inequality has changed over the past two decades. We classify the occupations of households into professional, office/sales worker, skilled production worker and laborer so that change in income, poverty and inequality levels can be measured by job category.

In Chapter 3, we analyze changes in consumption expenditure for the period between 1990 and 2010. We examine change in real consumption expenditure based on income quintile and analyze how the shares of expenditure sub-items have changed over the last 20 years. Also, we conduct Gini decomposition on individual expenditure items to find out how each item of consumption expenditure has contributed to the overall disparity

of consumption expenditure and how such contributions have changed.

Chapter 2 and Chapter 3 analyze the income and consumption of standard four-person households consisting of a married couple and two children. Such limited analysis is useful in examining change in the income and consumption expenditure of a homogeneous group by year as it controls change induced by the changing demographic and household structure, but it is clearly not enough to capture the whole picture of society.

For this reason, Chapter 4 analyzes the income and consumption practices of individual household types and job categories, using all households studied in the 2010 NSO Household Survey as data. The households are classified into eight types: elderly single-person households, non-elderly single-person households, households, non-elderly elderly two-person two-person households, three-person and four-person households (comprised of married couple and minor child/children), mother-child households and other households. We analyze each household type's income and consumption, poverty and inequality levels, and the contributions of individual income sources and expenditure items to income and consumption expenditure inequality. We also take a look at the job category distribution of households and poverty and inequality levels by job category.



Income Trends for Four-Person Households



Chapter 2

Income Trends for Four-Person Households

Section 1. Methodology

1. Data

In this chapter, we utilize raw data from the NSO Household Survey to examine the income trends and income distribution of standard four-person households from 1990 through 2010. Even among these four-person households, their income and expenditure items may vary significantly by the composition of households and the age of householders and children. This study aims to minimize the gap in the age of householders and household members to make the data comparable by year. We, however, have also considered the fact that attempts to minimize such differences and make household composition as homogeneous as possible may undermine the significance and validity of comparison as the number of sample households might become too small. In this study, four-person households with householders aged between 18 and 65 and two children under 18 are selected to generate comparative data. Our analysis is confined to urban worker and self-employed households, as agricultural/fisheries worker households became part of the statistics as recently as 2003.

2. Operationalization of variables

We use market income and ordinary income as income. Market income is the sum of earned income, property income and private transfer income, and ordinary income is defined as the combination of market income and public transfer income. All incomes and expenditures used in analysis are inflated by reflecting the inflation rate as of 2010. Therefore, all the change rates applied to the analysis results are real, not nominal, rates.

To analyze change in income and expenditure by job category, the occupation codes in the NSO Household Survey are reclassified. For analytical purposes, this study divides jobs into four categories: white collar professional, white collar office/sales worker, skilled blue collar worker and blue collar laborer.

3. Analytical methods

In this chapter, we utilize raw data from the NSO Household Survey and analyze income and expenditure trends for four-person households with wide-ranging methods.

First, market and ordinary income levels are divided by quintile for class-specific analysis in an endeavor to examine change in each quintile income. Given the growing importance of spouse income, change in spouse income and its changing share in total income are included in the analysis. To analyze change in the income distribution of households, we calculate the poverty rate and Gini coefficient based on 50% median income for total households, households with spouse income, and households without spouse income.

Second, we analyze change in income by job category. As in class-specific analysis, we examine income, poverty and inequality trends for individual job categories.

Lastly, we perform Gini decomposition per income source to determine the causes of change in inequality. The decomposition by income source is calculated using the following equation:²)

$$G = \sum_{k=1}^{K} \left[\frac{cov(x_k, F)}{cov(x_k, F_k)} \cdot \frac{2cov(x_k, F_k)}{m_k} \cdot \frac{m_k}{m} \right] = \sum_{k=1}^{K} R_k G_k S_k$$

where R_k is defined as the Gini correlation coefficient between the ranking of income source k and the ranking of gross income. G_k is the relative Gini of income source k (i.e. concentration index for factor k) and S_k the proportion of income source k in gross income. In the Gini decomposition per income source, income sources are classified into householder income (earned income + business income), spouse and other household member income (earned income + business income), property income, private transfer income and public transfer income to decompose the contribution of each income to the entire Gini coefficient. The sum of each income source's contribution equates to the Gini coefficient for gross income, which can be written as below:

Ginicoefficient for gross income = $C_f + C_h + C_w + C_e$

²⁾ See Yeo Eugene et al. (2005) for in-depth explanations on the methods and principles of Gini decomposition.

Section 2. Change in Income of Four-Person Households by Class

1. Income trends

Market income for standard four-person households increased from 1.899 million Korean won in 1990 to 3.125 million Korean won in 1996 (i.e. 9% growth on annual average). In the wake of the Asian financial crisis, however, it plunged by 15.3% year-on-year to 2.637 million Korean won in 1998. Market income kept on posting modest growth until falling 3.2% year-on-year to 3.816 million Korean won in 2009 in the aftermath of the global financial crisis.

The trend of ordinary income seems to be almost identical to what is observed in market income. The decrease rate of ordinary income during the Asian financial crisis was the same as that of market income (15.3% decline in both market income and ordinary income in 1998), but subsequent change in social policies (e.g. introduction of the national basic livelihood security system) led to a slight slowdown in income decrease during the global financial crisis in 2008 (3.2% decrease in market income and 2.8% decrease in ordinary income in 2009).

chapter 2_Incom Trends for Four-Person Households

		Korean won, %)			
Year	Market income	Change rate	Current income	Change rate	
1990	1,899		1,906		
1991	2,150	13.2	2,158	13.2	
1992	2,376	10.6	2,387	10.6	
1993	2,470	3.9	2,478	3.8	
1994	2,642	6.9	2,653	7.0	
1995	2,871	8.7	2,880	8.6	
1996	3,125	8.9	3,139	9.0	
1997	3,112	-0.4	3,131	-0.3	
1998	2,637	-15.3	2,651	-15.3	
1999	2,743	4.0	2,760	4.1	
2000	3,009	9.7	3,030	9.8	
2001	3,105	3.2	3,125	3.1	
2002	3,320	6.9	3,343	7.0	
2003	3,418	2.9	3,449	3.2	
2004	3,543	3.7	3,575	3.6	
2005	3,625	2.3	3,671	2.7	
2006	3,832	5.7	3,877	5.6	
2007	3,901	1.8	3,956	2.0	
2008	3,944	1.1	4,000	1.1	
2009	3,816	-3.2	3,889	- 2.8	
2010	3,857	1.1	3,954	1.7	

(Chart 2-1) Real market and ordinary income trends

Source: National Statistical Office, Household Survey, raw data



[Figure 2-1] Real market and ordinary income trends

Source: National Statistical Office, Household Survey, raw data

The disparity level of market income has remained nearly unchanged, standing at 4.0 in 1990 and 4.1 in 2010. The average change rate of ordinary income by income quintile is slightly positive at 0.29% for bottom 20% and is the highest at 0.40% for top fifth. The trends of market and ordinary incomes by quintile are similar in general, while change in bottom 20% income somewhat differs. As indicated in the above chart and figure, market income posted negative growth while ordinary income grew albeit minimally thanks to the effects of public transfer. chapter 2_Incom Trends for Four-Person Households





(Unit: 1,000 Korean won, %)

Source: National Statistical Office, Household Survey, raw data

2. Relative poverty trends

This study examines the trends of poverty rate based on the relative poverty rate for 50% median income. First, with market income as the basis, the poverty rates of total households, households with spouse income and households without spouse income in 1990 are 6.4%, 4.9% and 6.8%, respectively. The poverty rate of households without spouse income is 1.9%p higher than that of households with spouse income. The figures in 2010 are 6.7% for total households, 5.5% for households with spouse income and 7.6% for households without spouse income, suggesting that the poverty rate of households without spouse income is 2.1%p higher than that of households with spouse income.

When ordinary income with public transfer reflected is taken as the basis, the poverty rates of total households, households with spouse income and households without spouse income in 1990 are 6.3%, 4.4% and 6.8% each, showing a 2.4%p gap between the two groups compared. The rates in 2010 are 5.4% for total households, 3.9% for households with spouse income and 6.6% for households without spouse income, with a 2.7%p gap found between the two groups. This indicates that the absolute gap between poverty rates based on market income and ordinary income (i.e. the poverty-reduction effect of public transfer) became evident since the introduction of the National Basic Livelihood Security in 1999 and is highly visible from 2004 and onward.

(Chart 2-2) Relative poverty trends by spouse income

(Unit:	%)
(Ome.	101

	Total households		Households		Households without	
Voor			withspouse income		spouse income	
i eai	Market	Ordinary	Market	Ordinary	Market	Ordinary
	income	income	income	income	income	income
1990	6.4	6.3	4.9	4.4	6.8	6.8
1991	4.6	4.9	2.4	2.7	5.2	5.5
1992	5.1	5.0	3.6	3.6	5.5	5.4
1993	7.0	6.9	2.2	2.2	8.3	8.2
1994	7.1	7.1	4.5	4.5	8.1	8.0
1995	7.2	7.4	2.9	3.5	8.9	8.9
1996	6.7	6.9	2.5	2.9	8.3	8.4
1997	6.7	6.7	3.9	3.8	8.0	8.0
1998	10.3	10.2	11.3	11.0	9.8	9.8
1999	10.2	10.0	6.8	6.9	11.6	11.3
2000	7.3	7.5	4.2	4.1	9.6	10.0
2001	7.7	7.5	6.0	5.3	9.1	9.3
2002	5.9	5.9	3.7	3.4	7.7	7.8
2003	6.9	6.7	5.0	5.0	9.8	9.2
2004	7.9	7.2	6.9	6.3	9.1	8.3
2005	7.5	7.0	6.0	5.8	9.2	8.4
2006	7.0	6.4	4.5	3.7	9.3	8.8

Chapter 2_Incom Trends for Four-Person Households

	Total householde		Households		Households without	
Voor	Total Households		withspouse income		spouse income	
rear	Market	Ordinary	Market	Ordinary	Market	Ordinary
	income	income	income	income	income	income
2007	6.8	6.4	5.8	5.2	7.5	7.4
2008	6.1	5.4	4.9	3.9	7.0	6.6
2009	6.8	6.1	5.9	4.8	7.5	7.1
2010	6.7	5.4	5.5	4.4	7.6	6.1

Source: National Statistical Office, Household Survey, raw data

Inequality contribution trends by inequality level and income source

A. Gini coefficient trends

Gini coefficients are used here to examine change in inequality levels by year. First, the inequality level of market income was the lowest for households with spouse income (0.248) and higher for total households (0.256) which included both households with spouse income and those without (0.252). In 2010, the inequality levels of total households, households with spouse income and households without spouse income were 0.263, 0.253 and 0.254, respectively, with the figure for total households being the highest.

In 1990, the inequality level of ordinary income was the same at 0.246 for total households and households with spouse income and was slightly higher at 0.251 for households without spouse income. In 2010, the inequality level was identical at 0.243 across all groups, demonstrating that public transfer made the inequality level of all groups the same.

The annual trends of Gini coefficient based on market income indicate that the level of inequality increased dramatically during the Asian financial crisis and the global financial crisis and stabilized afterwards. Macroeconomic situations led to the biggest fluctuation for total households, while the level of fluctuation was the most modest for those with spouse income.

	Total households		Households	withspouse	Households without		
Veer	TULAI TIU	usenoius	inco	ome	spouse income		
rear	Market	Ordinary	Market	Ordinary	Market	Ordinary	
	income	income	income	income	income	income	
1990	0.256	0.246	0.248	0.246	0.252	0.251	
1991	0.241	0.232	0.233	0.232	0.236	0.235	
1992	0.238	0.231	0.231	0.231	0.236	0.235	
1993	0.241	0.234	0.235	0.234	0.240	0.239	
1994	0.240	0.231	0.233	0.231	0.237	0.236	
1995	0.234	0.228	0.228	0.228	0.237	0.236	
1996	0.251	0.243	0.243	0.243	0.255	0.254	
1997	0.251	0.243	0.242	0.243	0.251	0.251	
1998	0.270	0.261	0.263	0.261	0.257	0.254	
1999	0.279	0.269	0.271	0.269	0.277	0.274	
2000	0.266	0.255	0.257	0.255	0.263	0.261	
2001	0.269	0.258	0.260	0.258	0.260	0.257	
2002	0.261	0.250	0.252	0.250	0.256	0.254	
2003	0.260	0.249	0.253	0.249	0.264	0.256	
2004	0.269	0.255	0.261	0.255	0.267	0.259	
2005	0.266	0.254	0.259	0.254	0.263	0.257	
2006	0.270	0.255	0.262	0.255	0.266	0.258	
2007	0.280	0.263	0.270	0.263	0.260	0.251	
2008	0.289	0.269	0.277	0.269	0.262	0.254	
2009	0.274	0.257	0.264	0.257	0.262	0.253	
2010	0.263	0.243	0.253	0.243	0.254	0.243	

(Chart 2-3) Gini coefficient trends by spouse income

Source: National Statistical Office, Household Survey, raw data

chapter 2_Incom Trends for Four-Person Households

B. Gini decomposition results

The Gini decomposition method is used to examine how income sources affect the overall inequality levels and how such impacts have changed over the past two decades. Used in Gini decomposition are: (a) proportion of each income source in gross income; (b) Gini coefficient of each income source; and (c) Gini correlation coefficient between each income source; and gross income. The multiplied product of these three factors represents each income source's impacts on, or contribution to, the Gini coefficient on ordinary income. The sum of each income source's contribution to the entire Gini coefficient equates to the total Gini coefficient.

The proportion of the householder's earned income and business income in ordinary income has consistently declined though there have been some fluctuations. Householder income took up 87.1% of total household income in 1990, compared to 81.4% in 2010. Spouse income, on the other hand, has taken an increasingly large share in total household income. The proportion of spouse income more than doubled from 7.9% in 1990 to 16.5% in 2008 while declining slightly in 2009 and 2010. It is also noteworthy that the share of property income, albeit minimal, has gradually declined for the past 20 years while that of public transfer income has kept on growing. Especially in 2009 and 2010, public transfer income increased sharply with the introduction of the earned income tax credit system.

						(01110. 70)
	Householder	Spouse	Property	Public transfer	Private transfer	Ordinary
	income	income	income	income	income	income
1990	87.1	7.9	2.3	0.3	2.4	100.0
1991	86.7	8.8	2.4	0.4	1.7	100.0
1992	86.6	8.5	2.4	0.4	2.2	100.0
1993	86.2	9.5	1.7	0.3	2.3	100.0
1994	86.1	10.0	1.8	0.4	1.7	100.0
1995	85.4	10.5	1.5	0.4	2.2	100.0
1996	85.1	10.7	1.6	0.5	2.0	100.0
1997	84.9	11.2	1.4	0.6	2.0	100.0
1998	84.8	11.5	1.3	0.5	1.9	100.0
1999	83.9	10.8	1.4	0.6	3.3	100.0
2000	83.0	12.7	1.5	0.6	2.2	100.0
2001	82.4	13.3	1.4	0.6	2.3	100.0
2002	81.9	13.9	1.2	0.7	2.2	100.0
2003	81.6	14.6	1.1	0.9	1.7	100.0
2004	81.5	14.7	1.1	0.9	1.9	100.0
2005	80.7	15.2	0.9	1.1	2.1	100.0
2006	81.9	14.6	0.8	1.1	1.7	100.0
2007	80.6	15.7	0.6	1.3	1.9	100.0
2008	80.1	16.5	0.5	1.3	1.6	100.0
2009	81.1	15.0	0.5	1.6	1.8	100.0
2010	81.4	14.0	0.6	2.4	1.6	100.0

(Chart 2-4)	Proportion	of	each	income	source	in	ordinary	income
· · · · · ·								

(Unit: %)

Source: National Statistical Office, Household Survey, raw data

The below chart shows Gini decomposition results indicating how each income source has contributed to ordinary income inequality and has changed by year. As expected, the impacts of householder earned income on the Gini coefficient of ordinary income declined slightly from 85.9% in 1990 to 79.1% in 2010. Meanwhile, the impacts of spouse income on ordinary income inequality jumped from 8.3% in 1990 to 26.8% in 2008 before declining slightly to 20.6% in 2010. The growing impacts of spouse income on overall inequality levels are attributable not just to the increasing proportion of spouse income in total household income amid active economic participation of spouses but also to the greater correlation between spouse income and ordinary income.

	Householder income	Spouse income	Property income	Public transfer income	Private transfer income	Total
1990	85.9	8.3	4.1	0.0	1.7	100.0
1991	82.3	11.5	4.7	0.0	1.6	100.0
1992	81.8	10.4	5.2	0.4	2.2	100.0
1993	79.5	15.1	3.4	0.1	1.9	100.0
1994	80.9	15.7	3.7	0.1	-0.4	100.0
1995	79.4	14.9	2.5	0.3	2.9	100.0
1996	78.8	15.6	3.0	0.6	2.0	100.0
1997	77.7	16.0	2.8	0.8	2.6	100.0
1998	80.3	18.7	2.0	-0.1	-0.9	100.0
1999	80.8	14.0	2.3	-0.1	2.9	100.0
2000	79.1	17.0	2.5	-0.1	1.5	100.0
2001	78.7	18.0	2.6	-0.2	0.8	100.0
2002	77.1	19.7	2.7	0.0	0.6	100.0
2003	76.4	21.1	1.6	-0.2	1.1	100.0
2004	76.5	20.7	1.8	-0.6	1.6	100.0
2005	77.3	20.9	1.4	-0.6	1.0	100.0
2006	78.9	21.9	1.1	-1.4	-0.4	100.0
2007	76.0	24.3	0.6	-1.1	0.2	100.0
2008	74.3	26.8	0.7	-1.2	-0.5	100.0
2009	78.1	21.6	0.5	-0.7	0.5	100.0
2010	79.1	20.6	0.6	-0.6	0.3	100.0

(Chart 2-5) Each income source's contribution to relative inequality

(Unit: %)

Source: National Statistical Office, Household Survey, raw data



[Figure 2-3] Relative contribution trends by income source: Gini decomposition results

Source: National Statistical Office, Household Survey, raw data

Section 3. Income Trends by Job Category

1. Income trends by job category

The below chart illustrates change in household distribution by the job category and education of householders³). The distribution trends by job category and education suggest a shift to service industries and improved educational attainment of

³⁾ As code classification was revised four times, household distribution was somewhat unstable when the job categories of white collar professional, white collar office worker, skilled blue collar worker and blue collar laborer were applied. For instance, the proportion of households headed by white collar professionals went up from 29.8% in 2000 to 39.5% in 2001. For this reason, household distribution is divided only into white collar and blue collar but education was classified into "university or higher" and "high school or lower" to examine household distribution by job category and education.

workers. White collar workers with university or higher education accounted for 21.8% in 1990 and increased gradually to 50.27% in 2010. Around a half of householders in four-person households are university graduates or higher engaged in professional work or office work/sales/services. In contrast, low-educated blue collar workers declined gradually from 50.8% of total workforce in 1990 to a meager 24.5% in 2010.



[Figure 2-4] Householder mix trends by job category and education

Source: National Statistical Office, Household Survey, raw data

The trends of real household income by job category of householders are described in the below chart. The income of householders who were white collar professionals grew 36.6% in real terms from 2.92 million Korean won in 1994 to 3.99 million Korean won in 2010. For white collar office/sales workers, the growth rate of real householder income during the period

was 31.1%, while that of skilled blue collar workers was slightly higher at 33.8%. Meanwhile, the real income of householders engaged in blue collar labor in the same period increased a mere 2.8%. With inflation rates taken into account, it would be fair to say that the income growth of blue collar laborers has remained largely stagnant over the past 20 years.

(Chart 2-6) Real householder income trends by job category of householders (Unit: 1,000 Korean won, %)

	White collar	White collar office/	Skilled blue collar	Blue collar
	professional	sales worker	worker	laborer
1994	2,916	2,458	2,116	1,336
1995	3,092	2,593	2,283	1,294
1996	3,419	2,790	2,455	1,498
1997	3,475	2,809	2,356	1,623
1998	2,899	2,379	1,956	996
1999	3,151	2,269	2,058	920
2000	3,257	2,520	2,223	1,401
2001	3,364	2,130	2,249	1,122
2002	3,472	2,330	2,447	1,256
2003	3,599	2,853	2,441	1,229
2004	3,683	3,008	2,556	1,264
2005	3,644	3,202	2,528	1,302
2006	3,954	3,308	2,638	1,303
2007	3,997	3,339	2,702	1,204
2008	4,315	3,230	2,715	1,461
2009	3,990	3,173	2,727	1,370
2010	3,992	3,221	2,830	1,373
1994-2010	26.0	21.1	22.0	0.0
change rate	30.9	31.1	33.0	2.8

Source: National Statistical Office, Household Survey, raw data

The growth rate of real current household income was slightly higher than that of real income for householders. As indicated in the below chart, the ordinary income of households headed by white collar professionals jumped 40.8% from 3.37 million Chapter 2_Incom Trends for Four-Person Households

Korean won in 1994 to 4.75 million Korean won in 2010, while the figures for those headed by office/sales workers and blue collar skilled workers were 42.8% and 41.5% each. Meanwhile, the real income of households headed by blue collar laborers increased by just 22.5% during the same period, with their household income growing only half of what other households earned. This growth rate, however, is deemed relatively high as the earned income of householders engaged in blue collar labor rose a mere 2.8%. This is presumably because spouse income and public transfer grew faster than householder income during the period.

	White collar	White collar office/	Skilled blue	Blue collar
	professional	sales worker	collar worker	laborer
1994	3,374	2,783	2,441	1,930
1995	3,566	2,971	2,636	2,134
1996	3,944	3,245	2,862	2,296
1997	3,982	3,245	2,804	2,500
1998	3,339	2,806	2,272	1,587
1999	3,586	2,670	2,418	1,768
2000	3,745	3,081	2,673	2,206
2001	4,012	2,573	2,691	1,985
2002	4,156	2,824	2,943	2,224
2003	4,373	3,457	2,945	2,098
2004	4,492	3,615	3,099	2,242
2005	4,420	3,948	3,115	2,169
2006	4,648	4,014	3,252	2,205
2007	4,949	3,998	3,368	2,230
2008	5,294	3,933	3,412	2,582
2009	4,738	3,938	3,335	2,329
2010	4,750	3,973	3,454	2,365
1994-2010	10.9	10.0	41 E	00 F
change rate	40.0	42.0	41.5	22.5

$\langle Chart 2-7 \rangle$	Real	ordinary	income	trends	by	job cate	egory o	of house	eholde	ers
						(Unit:	1,000	Korean	won,	%)

Source: National Statistical Office, Household Survey, raw data

2. Poverty and inequality trends by job category

We will now move on to poverty and inequality trends by job category of householders. As expected, the poverty rate of households headed by white collar professionals is extremely low at 5% or below, though there have been some fluctuations depending on economic circumstances. The poverty rate of professional-headed households fell in the lower-2% range immediately after the Asian financial crisis and in the lower-3% range around the global financial crisis in 2008, while the rate was the highest at 4.3% right after Korea's credit card crisis in 2004. The poverty rate of households headed by office/sales workers reached its peak immediately after the Asian financial crisis (9.1% in 1999 and 10.7% in 2001) and remained relatively high at 7.4% in 2004 after the credit card crisis and at 7.1% in 2008 after the global financial crisis. The poverty rate of households headed by skilled blue collar workers reached its record high at 10.3% in 1999 right after the Asian financial crisis, 9.3% after the credit card crisis and 8.3% in 2009 immediately after the global financial crisis. Meanwhile, the poverty rate of blue collar laborers has consistently remained very high until recently. Their poverty rate surged from 28.2% in 1994 to 39.1% in 1998, immediately after the Asian financial crisis, and dropped sharply until soaring again to 37.2% in 2003 when the credit card crisis took place. The rate has never fallen back to the pre-crisis level, climbing beyond 40% in 2007 and still standing at 38.1% in 2010. On average, the poverty rate of laborer-headed households is 20 times higher than professional-headed ones and 4.8 times higher than those headed by skilled blue collar workers.

	White collar professional	White collar office/ sales worker	Skilled blue collar worker	Blue collar laborer
1994	1.55	3.98	5.53	28.24
1995	1.92	5.96	5.20	29.36
1996	3.47	4.68	5.94	28.32
1997	0.61	5.62	5.14	32.33
1998	2.28	5.73	10.27	39.11
1999	2.05	9.05	7.63	32.6
2000	1.00	6.32	7.99	28.09
2001	1.65	10.66	8.15	25.46
2002	1.86	7.64	4.39	24.12
2003	1.03	5.20	8.05	37.22
2004	4.29	7.41	9.26	33.08
2005	3.47	5.91	9.03	35.05
2006	1.78	6.69	7.78	37.25
2007	0.97	6.83	8.68	41.46
2008	3.31	7.12	7.59	36.52
2009	3.18	5.62	8.3	39.12
2010	1.61	5.06	4.86	38.14

(Chart 2-8) Poverty rate trends by job category of householders

Source: National Statistical Office, Household Survey, raw data

The below chart describes the trends of Gini coefficient for householder income by job category of householders. As seen in poverty rates, the internal inequality level of blue collar laborers was exceptionally high compared to the other three job categories. The inequality of householder income has gone up in general from 1994 through 2010. The Gini coefficient for householder income rose from 0.240 in 1994 to 0.289 in 1999 in the aftermath of the Asian financial crisis, but kept on declining afterwards, until it bounced back in 2005 and went up gradually to reach

0.282 in 2009. Internal inequality levels increased across all job categories — especially among white collar professionals and blue collar laborers. In 1994, the Gini coefficient of white collar professionals was the lowest among the four job categories at 0.206, but it rose to 0.256 in 2010 to represent the second greatest inequality following blue collar laborers. Blue collar laborers did not just have an absolutely high Gini coefficient but also saw a dramatic increase in internal inequality during this period.

	Total	White collar professional	White collar office/sales worker	Skilled blue collar worker	Blue collar laborer
1994	0.240	0.206	0.224	0.215	0.353
1995	0.241	0.213	0.228	0.212	0.329
1996	0.253	0.240	0.226	0.214	0.381
1997	0.247	0.225	0.235	0.205	0.380
1998	0.267	0.229	0.225	0.241	0.387
1999	0.289	0.254	0.249	0.234	0.378
2000	0.266	0.232	0.226	0.235	0.403
2001	0.272	0.221	0.237	0.230	0.397
2002	0.262	0.213	0.233	0.225	0.394
2003	0.257	0.220	0.219	0.228	0.390
2004	0.267	0.231	0.231	0.244	0.388
2005	0.270	0.227	0.235	0.257	0.388
2006	0.274	0.235	0.242	0.241	0.433
2007	0.277	0.250	0.249	0.237	0.396
2008	0.286	0.255	0.256	0.234	0.363
2009	0.282	0.264	0.250	0.237	0.373
2010	0.272	0.256	0.243	0.231	0.413

(Chart 2-9) Householder income inequality trends by job category of householders

Source: National Statistical Office, Household Survey, raw data
Ordinary income inequality by job category of householders is lower than the inequality level of householder income, hinting that the rest of the household income except the householder's helped alleviate inequality. Property income and especially public transfer income contributed to some extent to reducing inequality levels during this period.

(Chart 2-10) Ordinary income inequality trends by job category of householders

	Total	White collar professional	White collar office/sales worker	Skilled blue collar worker	Blue collar laborer
1994	0.231	0.218	0.220	0.200	0.286
1995	0.210	0.210	0.223	0.195	0.314
1996	0.243	0.235	0.228	0.205	0.337
1997	0.243	0.221	0.244	0.200	0.385
1998	0.261	0.230	0.240	0.223	0.338
1999	0.268	0.240	0.250	0.221	0.337
2000	0.253	0.229	0.239	0.223	0.339
2001	0.257	0.226	0.227	0.218	0.248
2002	0.252	0.222	0.235	0.219	0.261
2003	0.249	0.234	0.225	0.206	0.303
2004	0.257	0.243	0.239	0.220	0.285
2005	0.254	0.237	0.232	0.224	0.300
2006	0.254	0.233	0.236	0.219	0.300
2007	0.262	0.249	0.239	0.220	0.331
2008	0.270	0.256	0.241	0.216	0.301
2009	0.258	0.254	0.235	0.209	0.293
2010	0.247	0.243	0.220	0.201	0.320

Source: National Statistical Office, Household Survey, raw data



Consumption Pattern Trends of Four-Person Households



Chapter 3

Consumption Pattern Trends of Four-Person Households

Consumption is an act of expressing and satisfying most of human wants and desires, which is why in economics consumption is often used as a proxy variable for welfare or utility. Often dubbed "consumer society", modern industrialized society is characterized by both the abundance or deficiency of goods and services. In this sense, the consumption activities and behaviors of individuals and households are important indicators of their socio-economic standings.

This chapter aims to analyze change in the consumption patterns and behaviors of standard four-person households from 1990 through 2010. We first examine the trends of consumption expenditure and deficit household ratios for each income quintile, and we then analyze in greater detail how the proportion of individual items in class-specific consumption expenditure has changed over the past 20 years. Lastly, we analyze the trends of each sub-item's contribution to overall consumption expenditure inequality to draw their implications.

Section 1. Consumption expenditure trends by income quintile

During the last 20 years, real consumption expenditure with the consumer price index reflected has increased by 106.5% from 1.33 million Korean won to 2.74 million Korean won. By income quintile, the real consumption expenditure of third 20% showed the greatest increase of 127.6%, followed by bottom 20%(125.5%) and second 20%(116.2%), while the consumption expenditure of the top 20% saw the smallest growth of 80.9%, implying lower-income households have greater marginal propensity to consume. It would be necessary, however, to examine the absolute amount of consumption expenditure as the rate of increase tends to be higher for the same numerator when the denominator is smaller.

	(Unit: 1,000 Korean won,								
	Bottom	Second	Third	Fourth	Fifth	Total			
1990	827	1,053	1,158	1,503	2,097	1,327			
1991	950	1,155	1,305	1,602	2,261	1,454			
1992	1,050	1,252	1,417	1,673	2,264	1,530			
1993	1,078	1,338	1,503	1,738	2,361	1,603			
1994	1,139	1,444	1,626	1,955	2,517	1,736			
1995	1,326	1,550	1,779	1,987	2,599	1,847			
1996	1,305	1,662	2,036	2,225	2,958	2,036			
1997	1,353	1,636	1,944	2,255	3,191	2,075			
1998	1.057	1.296	1.585	1.821	2.525	1.657			

1,787

2.088

2,178

2.321

2,795

3.250

1,905

2.161

(Chart 3-1) R	Real consumption	expenditure	trends	by	income	quintile

1999

2000

1,223

1.387

1,543

1.765

	Bottom	Second	Third	Fourth	Fifth	Total
2001	1,502	1,766	2,110	2,484	3,216	2,215
2002	1,524	1,786	2,133	2,479	3,240	2,232
2003	1,575	1,983	2,261	2,604	3,468	2,378
2004	1,576	1,999	2,371	2,735	3,531	2,441
2005	1,622	2,056	2,402	2,844	3,738	2,532
2006	1,665	2,197	2,497	2,924	3,747	2,605
2007	1,794	2,193	2,529	2,912	3,919	2,669
2008	1,808	2,193	2,635	2,996	3,804	2,686
2009	1,713	2,161	2,561	3,021	3,816	2,653
2010	1,865	2,277	2,635	3,137	3,792	2,741
1990-2010 change rate	125.5	116.2	127.6	108.7	80.9	106.5

chapter 3_Consumption Pattern Trends of Four-Person Households

Source: National Statistical Office, Household Survey, raw data

The ratio of deficit households in each income quintile are illustrated in the below figure. As expected, the deficit household ratio is the highest among the bottom 20%. Immediately after the Asian financial crisis, in particular, their deficit household ratio exceeded 50%. Unlike the other income groups, their deficit household ratio has hardly declined since the Asian financial crisis and been kept at 50-60% until now. The deficit household ratio of second 20% households has also remained almost the same since the Asian financial crisis, though the figure is lower than that of lowest 20% households.



[Figure 3-1] Deficit household ratios by income quintile

Note: Deficit households are defined as those where ordinary income / household expenditure exceeds 1.

Source: National Statistical Office, Household Survey, raw data

Section 2. Consumption expenditure trends by item

The most noteworthy characteristics of consumption expenditure items during 1990-2010 are: a sharp decline in grocery expenses; a dramatic increase in dining/lodging expenses; and a rapid surge in education expenses. During the period, the proportion of grocery expenses in total consumption expenditure more than halved from 26.8% to 12.7%, while that of dining/lodging expenses including eating-out expenses rose sharply from 7.8% to 12.4%. Eating-out expenses now take up a vast proportion in food expenses not just because greater national income has led to a sharp drop in Engel's coefficient but also because more and more women enter the workforce and eating-out culture becomes widespread.

The share of living and utility expenses declined by 2%p from 9.8% in 1990 to 7.1% in 2010. It should be noted, however, that loan interests and principal payments owing to the ownership or leasing of housings are excluded here⁴). Lower income tiers faced considerably huge burdens of living expenses as the top 20% spent 7.1% of their consumption expenditure in living and utility expenses while bottom 20% households spent as much as 11.4%.

The share of health/medical expenses in total consumption expenditure declined slightly from 6.5% to 5.7% during the period. It should be noted that the health/medical expenses of the top 20% dropped only 0.5%p from 5.5% to 5.0% while those of the bottom 20% fell 1.6%p from 7.1% to 5.5%. This may indicate improved medical equity as the publicness of health services was reinforced in part during the period, with the self-burden rate of the national health insurance being lowered and ceilings being set on the hospital expenses for cancer and other diseases incurring huge medical expenses.

⁴⁾ The housing occupation patterns of four-person households changed dramatically during the period. The proportion of home-owning households (including free and company housings) went up from 37.4% in 1990 to 60.4% in 2010. Meanwhile, the proportion of households turning to one-time deposit lease dropped from 39.8% to 28.9%, and those residing in rented housings (monthly rent with variable deposit included) shrank from 22.8% to 10.7%. Household debts as of 3Q 2010 amount to 893 trillion Korean won (The Kyunghyang Shinmun, Dec. 4, 2011), where housing-related debts take up a large share. In this sense, it is believed that the real burdens of housing expenses would be much greater than this.



[Figure 3-2] Change in expenditure shares by income quintile 1990 vs. 2010

Source: National Statistical Office, Household Survey, raw data

Chapter 3_Consumption Pattern Trends of Four-Person Households

The proximate factor for the increase in consumption expenditure during this period was education expenses. As shown in the below chart, education expenses stood at 108,000 Korean won back in 1990, taking up only 8.1% of total consumption expenditure. Both the absolute and relative shares of education expenses have sharply grown ever since, reaching 540,000 Korean won, or 20.4% of total consumption expenditure in 2009. Education expenses accounted for a growth of 28.4% in consumption expenditure during this period was attributable to education expenses. This dramatic increase in education expenses is seemingly attributable to ever-increasing private education expenses⁵.

The real growth rate of education expenses amounted to 510% for the bottom 20%; the rates for third 20% households and top 20% households were also as high as 496.1% and 280%, respectively. The average growth rate was 372.4%. As of 2010, the gap in educational expenditure between the bottom 20% and the top 20% was around 480,000 Korean won, with the latter spending 2.5 times more than the former in education expenses.

⁵⁾ In 1989, non-profit private tutoring by university students and prep school attendance by elementary/middle/high school students during semesters were allowed. In 2000, private academies and other private education institutions became active as the prohibition of private tutoring was ruled unconstitutional. A rapid increase in the university entrance rate, of course, is a key driver of increase in education expenses, but this factor is excluded in this study as four-person households as the subjects of this study have two children under 18 and thus involve no children attending universities.



[Figure 3-3] Education expense trends by income guintile

Source: National Statistical Office, Household Survey, raw data

Also, the shares of transportation and communication expenses in total consumption expenditure have sharply grown. The proportion of transportation expenses rose from 9.7% in 1990 to 12.1% in 2010, while that of communication expenses went up from 2.0% to 4.9% during the same period. The growing share of transportation expenses is attributable mainly to the widespread ownership of private cars⁶), oil price hikes and the popularity of leisure activities amid the spread of five-day work week. The dramatic surge in communication expenses can be explained by the fact that the use of the Internet and mobile phones became widespread during the period.

In summary, consumption patterns in general have changed

⁶⁾ The number of private cars went up sharply from just 3,039,000 in 1990 to 16,901,000 in 2010 (www.kosis.kr). As the total number of households today is 17,941,000, a simple calculation leads to the conclusion that the era of one car per household has arrived.

in a way where the proportion of essential and strongly public goods in consumption expenditure declined while that of discretionary and private goods increased dramatically. Especially from the perspective of social welfare, it is noteworthy that the gap in educational investment has further widened across all income levels as the characteristics of education as public goods weakened during the period.



Income and Consumption by Household Type in 2010



Chapter 4

Income and Consumption by Household Type in 2010

Using the latest data of the 2010 NSO Household Survey, this chapter analyzes the income and consumption expenditure of all households except agricultural/fisheries households. In order to improve the usefulness of data and produce results with greater policy significance, we compare income and consumption expenditure by household type. The households surveyed are classified into eight types: (a) elderly single-person household; (b) non-elderly single-person household; (c) elderly two-person household; (d) non-elderly two-person household; (e) three-person household (married couple + one child under 18); (f) four-person household (married couple + two children under 18); (g) mother-child household; and (h) other household.

Section 1. Income and Consumption Expenditure by Household Type

1. Characteristics by household type

Households of elderly (aged 65 or older) one-person and of elderly two-person (husband and wife) households took up 6.9% and 4.1%, respectively, of all households. Combined, households

with only elderly members accounted for 11% of total households. The Household Survey excludes agricultural and fisheries households, and elderly households are concentrated in agricultural and fisheries areas. In this vein, we believe the actual proportion of elderly households would be much higher than that. The proportions of three-person households (with a married couple and one child under 18) and four-person households (with married couple and two children) were 9.7% and 18.1% each, suggesting that two-child households still took a larger share of households with children under 18. Mother-child households accounted for 2.8% of total households⁷).

The number of employed household members was 0.26 for elderly single-person households and 0.44 for elderly two-person households, suggesting a high share of economically inactive population owing to household characteristics. On the other hand, non-elderly two-person households (1.38), three-person households (1.38) and four-person households (1.43) all had more than one employed household member. In other words, in the case of non-elderly households consisting of two or more persons, four out of ten persons as household members other than the main breadwinners — usually their spouses — were involved in income-generating activities.

⁷⁾ In sample surveys, the occurrence rate of mother-child households is generally lower than the actual occurrence rate of the entire population. According to the 2010 NSO Total Demographic/Household Survey, the total number of single-parent households was 1,594,000. 1,247,000 out of them were mother-child households, taking up 7.2% of total households (17,339,000) (www.kosis.kr).



[Figure 4-1] Education by household type

Source: National Statistical Office, Household Survey, raw data

While most elderly householders were high school graduates or lower, a majority of householders with minor child/children were highly educated ones (i.e. two-year college graduates or higher). The householders of elderly single-person households were relatively less educated than those of elderly two-person households, with 86.5% of them being middle school graduates or lower. This is because 85.2% of elderly single-person households were headed by women, who had relatively lower education than their male counterparts. 46.6% of householders heading mother-child households were university graduates or higher. This represents a relatively low share of highly educated householders compared to three- and four-person households, considering that the age of householders for these households was at a similar level.

A relatively large share of elderly households were housing owners. 68.3% of elderly single-person households and 89%

of elderly two-person households lived in their own housings (free housings included). On the other hand, only 38.5% of non-elderly single-person households were housing owners, while the proportion of households living in rented housings (monthly rent with variable deposit included) was very high at 36.6%. As for three-person and four-person households with children, the shares of housing owners were 58.8% and 61.7% each, while those residing in leased housings based on one-time deposit accounted for as high as 29.9% and 27.5%, respectively, of such households.



[Figure 4-2] Housing occupation patterns by household type

Source: National Statistical Office, Household Survey, raw data

The average income of elderly single-person households was 647,000 Korean won, or only 38.3% of 1.688 million Korean won as the average income of non-elderly single-person households. The income of elderly two-person households (1.287 million Korean won) also reached a meager 41% of what

non-elderly two-person households earned (3.137 million Korean won). The ordinary income of four-person households (married couple + two children) was the highest at 3.888 million Korean won, as their householders were at the peak of economic activities (i.e. in their early/mid-40s) and the share of double-breadwinner households was also high. The average ordinary income across all household types was 3.052 million Korean won.

The average consumption expenditure and household expenditure of elderly households were 601,000 Korean won and 1.021 million Korean won each, with their household expenditure far exceeding ordinary income⁸). The average consumption expenditure and household expenditure of elderly two-person households stood at 1.053 million Korean won and 1.687 million Korean won, where household expenditure was also far above ordinary income. This indicates that a considerably large share of elderly households were running deficits. The consumption expenditure and household expenditure of three-person households were 2.348 million Korean won and 3.056 million Korean won each, with their average household balance (i.e. household expenditure against ordinary income) being 85.6%. Four-person households spent 2.697 million Korean won in consumption expenditure and 3.476 million Korean won in household expenditure; their average household balance stood at 89.4%.

⁸⁾ The concept corresponding to ordinary income is household expenditure, not consumption expenditure. Ordinary income is the amount before deducting taxes, social security contributions and other expenses, and household expenditure also includes non-consumption spendings. Therefore, it is more reasonable to apply household expenditure when comparing with ordinary income.

						、	, _,			
Division		Elderly single- person	Non-elderly single person	Elderly two- person	Non- elderly two- person	Three-pers on (couple +1 child)	Four-pers on(couple +2 children)	Mother- child	Other	Total
Share of households		6.9	13.4	4.1	9.1	9.7	18.1	2.8	35.9	100.0
Size of households		1.0	1.0	2.0	2.0	3.0	4.0	2.7	3.6	2.8
# of employed persons		0.3	0.7	0.4	1.4	1.4	1.4	0.6	1.8	1.3
Share of female householders		85.2	56.3	11.7	17.0	13.6	3.9	100.0	20.8	27.8
Average age of householders		73.5	46.0	73.4	50.0	40.8	40.6	40.3	51.9	49.9
Education of householders	High school or lower	92.3	68.3	81.2	66.1	40.2	40.6	65.1	68.8	62.9
	University or higher	3.7	31.8	18.8	33.9	59.8	59.4	34.9	31.4	37.2
Employment status	Employed	25.5	73.4	30.6	87.3	91.2	97.5	57.9	85.2	79.5
	Unemployed	74.6	26.6	69.4	12.7	8.8	2.5	42.1	14.8	20.5
Housing occupation	Own (free)	68.3	38.5	89.0	69.2	58.8	61.7	46.6	73.4	63.3
	One-time deposit lease	19.4	25.0	8.1	17.4	29.9	27.5	30.6	15.5	20.9
	Monthly rent	12.3	36.6	3.0	13.4	11.3	10.8	22.9	11.0	14.8
Housing ownership		59.1	39.1	87.1	72.5	60.6	66.8	48.1	76.4	66.2
Ordinary income		647	1,688	1,287	3,137	3,569	3,888	2,612	3,680	3,052
Disposable income		628	1,570	1,230	2,872	3,258	3,528	2,510	3,381	2,803
Consumption expenditure		601	1,037	1,053	1,823	2,348	2,697	1,970	2,347	2,002
Household expenditure		1,021	1,398	1,687	2,439	3,056	3,476	2,505	3,083	2,650

(Chart 4-1) Characteristics by household type

(Unit: %, 1,000 Korean won)

Source: National Statistical Office, Household Survey, raw data

2. Poverty and income distribution by household type

As discussed earlier in the characteristics by household type, elderly households showed very low income level compared to non-elderly ones. As a result, the poverty rate of elderly households was extremely high as illustrated in the below figure. One out of two elderly single-person households were in absolute poverty, living on less than the minimum cost of living. Their poverty rate was as high as 84.4% when based on 60% median income. The poverty rate of elderly two-person households was lower than that of elderly single-person households yet remained at a very high level. Of them, 42.1% were in absolute poverty living on less than the minimum cost of living, while 71.5% were relatively poor based on the 60% median income threshold. Meanwhile, the absolute poverty rate of four-person households was as low as 3.0%, and their poverty rate based on the 60%median income threshold stood at 10.9%, which was 1/7 to 1/8 of what was observed among elderly households. With the minimum cost of living as the basis, the poverty rate of mother-child households was 15.6%, which was more than triple that of three-person households and over five times higher than that of four-person households. All in all, the poverty rate was highest with elderly one-person households, followed by elderly two-person households, non-elderly single-person households and mother-child households. The lowest poverty rate was found among four-person households with a married couple and two children.



[Figure 4-3] Poverty rates by household type

Source: National Statistical Office, Household Survey, raw data

Calculated as household expenditure against ordinary income by household type, the deficit household ratio was highest for elderly one-person households, followed by elderly two-person households, mother-child households and non-elderly single-person households. More than half of elderly households, in particular, failed to strike a balance between income and expenditure. Nevertheless, 33.7% of total households were found to be deficit households, hinting a very high share of households with less room for saving as well as long-term risks of credit delinquency.



[Figure 4-4] Deficit household ratios by household type

Source: National Statistical Office, Household Survey, raw data

3. Inequality by household type

The below figure shows the income source mix by household type. Transfer income took a large share of household income in elderly households. For elderly single-person households, public transfer income and private transfer income accounted for 37% and 35% of total income, respectively, while the figures were 38% and 20% for elderly two-person households. In other words, transfer income represented 72% of total income for elderly single-person households and 58% for elderly two-person households, while income earned by households took up only around 20%. It is believed that a growing number of elderly citizens depend on public transfer income with the introduction of the national basic living security system in 2000 and the basic old-age pension in 2008 as well as with the national pension scheme becoming firmly established.





Source: National Statistical Office, Household Survey, raw data

As for three- and four-person households comprised of a married couple and minor child/children, householder income accounted for 73% and 81% of their total income, respectively, with the remaining 20% and 14% being spouse income. The high proportion

of spouse income in three-person households compared to four-person ones seemingly had to do with relatively smaller burdens of child rearing and education, though more in-depth research would be required in this regard. In the case of mother-child households, householder income accounted for 40% of total income and private transfer income 51%. The female householders of mother-child households have to work on child rearing/education and economic activities at the same time, so their income would be relatively low; with a growing number of mother-child households being divorced ones, there would be many households receiving alimony or seeking other forms of help from families. Public transfer income took up only 5% of total income for mother-child households.

Suggested in the below chart is the results of Gini decomposition to examine the impacts of inequality levels by household type and individual income sources on the overall inequality of ordinary income:

Turno		Shara	Gini	Correlation	Relative	% abanga	
туре		Silare	coefficient	coefficient	contribution	% change	
	Householder	0.6687	0.4163	0.7974	0.6857	0.0171	
	Spouse (other)	0.2295	0.6894	0.6183	0.3023	0.0728	
Total	Property	0.0178	0.9514	0.2677	0.0140	-0.0038	
TOLAI	Public transfer	0.0455	0.7906	-0.0395	-0.0044	-0.0498	
	Private transfer	0.0386	0.9228	0.0216	0.0024	-0.0362	
	Ordinary income		0.3237				
	Householder	0.1960	0.8303	0.5748	0.2405	0.0445	
	Spouse (other)	0.0110	0.9920	0.8386	0.0236	0.0126	
Elderly	Property	0.0735	0.9348	0.6342	0.1120	0.0385	
single-person	Public transfer	0.3654	0.5824	0.5591	0.3059	-0.0595	
5	Private transfer	0.3541	0.6593	0.5297	0.3179	-0.0362	
	Ordinary income		0.3889				

(Chart 4-2) Gini decomposition results by household type

-		a	Gini	Correlation	Relative	0/ 1
Туре	Income source	Share	coefficient	coefficient	contribution	% change
	Householder	0.8034	0.5160	0.9058	0.8674	0.0640
Non-elderly single-person	Spouse (other)	0.0109	0.9796	0.6532	0.0161	0.0052
	Property	0.0309	0.9699	0.5692	0.0394	0.0085
	Public transfer	0.0428	0.8478	-0.1804	-0.0151	-0.0580
en gie percen	Private transfer	0.1120	0.8913	0.4000	0.0923	-0.0198
	Ordinary income		0.4329			
	Householder	0.1889	0.7888	0.4932	0.1796	-0.0093
	Spouse (other)	0.0475	0.9070	0.3847	0.0405	-0.0070
Elderly	Property	0.1871	0.8750	0.7043	0.2818	0.0947
two-person	Public transfer	0.3782	0.6375	0.7267	0.4283	0.0500
	Private transfer	0.1983	0.7007	0.2056	0.0698	-0.1285
	Ordinary income		0.4092			
	Householder	0.6651	0.4063	0.7889	0.6645	-0.0006
	Spouse (other)	0.2066	0.6713	0.6032	0.2607	0.0541
Non-elderly	Property	0.0284	0.9305	0.3599	0.0296	0.0012
two-person	Public transfer	0.0542	0.8607	0.0957	0.0139	-0.0403
	Private transfer	0.0457	0.9295	0.2360	0.0313	-0.0145
	Ordinary income		0.3208			
	Householder	0.7271	0.3371	0.8006	0.7006	-0.0265
	Spouse (other)	0.1982	0.6882	0.6137	0.2989	0.1007
Three person	Property	0.0088	0.9655	0.0935	0.0028	-0.0060
mee-person	Public transfer	0.0295	0.8469	-0.2568	-0.0229	-0.0523
	Private transfer	0.0365	0.9402	0.1680	0.0206	-0.0159
	Ordinary income		0.2801			
	Householder	0.8088	0.2782	0.8561	0.7857	-0.0230
	Spouse (other)	0.1442	0.7277	0.4949	0.2118	0.0676
Four porcon	Property	0.0062	0.9639	0.3766	0.0092	0.0030
rour-person	Public transfer	0.0261	0.7749	-0.0926	-0.0076	-0.0337
	Private transfer	0.0148	0.9589	0.0159	0.0009	-0.0138
	Ordinary income		0.2452			
	Householder	0.4000	0.5925	0.5206	0.3606	-0.0394
	Spouse (other)	0.0258	0.9347	0.4509	0.0318	0.0060
Mother-child	Property	0.0114	0.9735	0.6076	0.0196	0.0083
	Public transfer	0.0536	0.7791	-0.3173	-0.0387	-0.0923
	Private transfer	0.5092	0.6068	0.6938	0.6266	0.1174
	Ordinary income		0.3422			
	Householder	0.5980	0.4183	0.7569	0.6247	0.0267
	Spouse (other)	0.3095	0.5813	0.6006	0.3565	0.0470
Other	Property	0.0205	0.9418	0.2829	0.0180	-0.0025
	Public transfer	0.0486	0.7723	0.0091	0.0011	-0.0475
	Private transfer	0.0234	0.9251	-0.0047	-0.0003	-0.0237
	Ordinary income		0.3031			

Note: Unequalized incomes are used.

Source: National Statistical Office, Household Survey, raw data

First of all, Gini coefficients by household type are as follows: The inequality level was highest with non-elderly single households (0.4329), followed by elderly two-person households (0.4092), elderly one-person households (0.4092) and mother-child

households (0.3422). On the other hand, the Gini coefficients of four-person households and three-person households (consisting of married couple and minor child/children) were relatively low at 0.2452 and 0.2801, respectively. Overall, household types with higher poverty rates showed higher internal inequality levels. The inequality level of total households stood at 0.3237.

According to the Gini decomposition results, the relative impact of individual income sources on ordinary income inequality varied significantly across household types. In elderly households, the high share of transfer income in total income translated into a huge impact on inequality levels, too. In particular, public transfer income had a considerable positive impact on inequality, which can be largely explained by the fact that a large part of the elderly income security system was income-proportional or semi-universal. For instance, the recipients of the mandatory occupational pension and National Pension are highly likely to have worked in relatively stable and well-paid jobs in the past. Therefore, public transfer income is highly likely to be regressive. Evidencing this is the Gini correlation coefficient between public transfer income and total ordinary income, standing at 0.5591 for elderly single-person households and 0.7267 for elderly two-person households to indicate s very strong positive correlation. There, of course, are targeted recipients of the national basic living security system, but the influence of other systems seems to be greater overall as its take-up rate is lower than the others'.

[Figure 4-6] Contribution to relative inequality by household type and income source: Gini decomposition results



Source: National Statistical Office, Household Survey, raw data

In contrast, the inequality of ordinary income was largely determined by householder income in three- and four-person households whose householders were mostly employed. In other words, householder income explained 70% of ordinary income inequality for three-person households and 78.6% for four-person households. Especially for these two household types, public transfer income helped reduce inequality levels, albeit slightly, because, unlike for the aforementioned elderly households, the income security system for employable households was minimal in itself and was comprised mainly of targeted schemes.

4. Consumption expenditure by household type

The below figure shows the shares of individual items in total consumption expenditure by household type. What was most

striking about the consumption expenditure of elderly households is the relatively high share of housing and medical expenses. In the case of elderly single-person households, housing and medical expenses each took up 24% and 18% of their total consumption expenditure, and 42% combined. As for elderly two-person households, the two items accounted for 37% of total consumption expenditure (i.e. housing 18%, medical 19%). Owing to a relatively high Engel's coefficient, grocery expenses took up 23% and 25% of total consumption expenditure for elderly one-person households and elderly two-person households each.

For four-person households (consisting of married couple and two children) and mother-child households, education expenses accounted for 18% and 20% of their total consumption expenditure, respectively, showing that education expenses did place huge burdens on household finance. In contrast, three-person households (with one child) spent 11% of their total consumption expenditure in education expenses. This implies that the ongoing issue of low childbirth has much to do with child rearing and education expenses.





Source: National Statistical Office, Household Survey, raw data

The below figure describes the impacts of key items on overall consumption expenditure inequality as a result of Gini decomposition on consumption expenditure. The results are similar to the shares of individual items in consumption expenditure. In other words, medical and housing expenses had a huge impact on total consumption expenditure, while education expenses were found to have the biggest influence on consumption expenditure inequality among four-person and mother-child households. This indicates that in order to lessen inequality in consumption expenditure, greater public intervention is needed on medical treatment and housing for elderly households and on education for households with children.

[Figure 4-8] Contribution of each household type/expenditure item to relative inequality: Gini decomposition results



Source: National Statistical Office, Household Survey, raw data

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Section 2. Income and Consumption Expenditure by Job Category

By job category, office/sales workers took up the highest share of 26.4% in all householders, followed by skilled production workers (23.9%), non-employed (20.5%), professionals (16.9%) and laborers (12.3%). The size of households was similar among skilled production workers (3.3 persons), professionals (3.2 persons) and office/sales workers (3.1 persons), while the figures were lower for laborers (2.5 persons) and non-employed (1.9 persons).

The average number of employed persons in households was 1.7 persons for skilled production workers, 1.6 persons for office/sales workers, and 1.5 persons each for professionals and laborers. When the householders were non-employed, the number of employed persons in such households was a meager 0.2 persons, suggesting many of them were unemployable households (e.g. elderly and handicapped) and single-person households. In fact, the average age of the heads of non-employed households was 62.0, implying that a vast majority of them were elderly. More than one in every two female householders (51.9%) were non-employed, reflecting the high share of female elderly one-person households, 44.8% were laborers, and 29.7% were office/sales workers. This suggests that a large number of female householders engaged in low-income service jobs.

					. ,	
	Professional	Office worker	Skilled production worker	Laborer	Non- employed	Total
Share of households	16.9	26.4	23.9	12.3	20.5	100.0
Size of households	3.2	3.1	3.3	2.5	1.9	2.8
Number of persons employed	1.5	1.6	1.7	1.5	0.2	1.3
Share of female households	14.5	29.7	5.7	44.8	51.9	27.9
Average age	42.4	44.9	47.0	56.4	62.0	49.9

(Chart 4-3) Share and characteristics of households by job category (Unit: %, vears old)

Source: National Statistical Office, Household Survey, raw data

The below figure illustrates the job categories of householders by household type. As seen in the figure, around 70% of elderly householders were non-employed, and even those employed were mostly blue collar laborers. In the case of householders for threeand four-person households who were in their early 40s on average, the shares of non-employed were relatively low at 8.8% and 2.5%, respectively. As for three-person households, 33.8% of employed householders were office/sales workers, 26.4% administrative workers/professionals and 24.8% skilled production workers, while only 6.1% of them were laborers. Among the householders of four-person households, 34.2% were white collar workers (e.g. office and sales workers), 31.2% skilled blue collar workers and 27.6% administrative workers or professionals, compared to 4.4% working as laborers.

In contrast, mother-child households with a similar average age were mostly presumed to be in the economically active age

group, yet 42.1% of them were classified as non-employed. Even among those employed, only 11.2% of them were administrative workers or professionals — less than half of three- and four-person households — while the proportion of office/sales workers was relatively high at 30.5%. The share of householders engaged in blue collar labor (9%) was also relatively higher than threeand four-person households.



[Figure 4-9] Job categories of householders by household type

The below table describes the household income and shares by job category. The average ordinary income was 3.05 million Korean won, with professional-headed households recording the highest ordinary income of 4.64 million Korean won, followed by office workers (3.56 million Korean won) and skilled production workers (3.33 million Korean won). The ordinary income of laborer-headed households and non-employed households was 1.10 million Korean won and 1.04 million Korean won each, which is considerably lower than other job categories even when the size of households is taken into account.

Source: National Statistical Office, Household Survey, raw data
chapter 4_Income and Consumption by Household Typein 2010

Professional-headed households also featured the highest spouse income of 0.83 million Korean won across all job categories and the highest property income except non-employed households. As for households headed by office/sales workers, their householder income was around 180,000 Korean won higher than that of households headed by skilled production workers but their spouse income was approximately 60,000 Korean won lower. Their private transfer income was also 80,000 Korean won higher than that of skilled production worker-headed households. As a result, the ordinary income of office worker-headed households was about 220,000 Korean won higher than what their skilled production worker-headed counterparts earned.

(Chart 4-3) Income by job category

				(01111. 1	,000 Rolean	won, 707
	Professional	Office worker	Skilled production worker	Laborer	Non-employed	Total
Householder income	3,549	2,577	2,394	1,144	117	2,016
Spouse income	829	705	765	59	292	641
(Only if spouse income exists)	1,587	1,265	1,181	1,097	1,037	1,248
Spouse income	55	52	42	35	147	68
Public transfer income	104	102	93	167	377	165
Private transfer income	104	119	40	108	43	160
Ordinary income	4,641	3,555	3,334	2,045	1,366	3,050
Householder income	76.5	72.5	71.8	55.9	8.6	66.1
Spouse income	17.9	19.8	22.9	28.9	21.4	21.0
Spouse income	1.2	1.5	1.3	1.7	10.8	2.2
Public transfer income	2.2	2.9	2.8	8.2	27.6	5.4
Private transfer income	2.2	3.3	1.2	5.3	31.6	5.3
Ordinary income	100.0	100.0	100.0	100.0	100.0	100.0

(Unit: 1,000 Korean won, %)

Source: National Statistical Office, Household Survey, raw data

The below figure shows the income quintile groups mix by job category. As expected, professional-headed households were concentrated in the higher income levels and non-employed households in the lower income levels. For instance, 43.2% of professional-headed households fell into the top 20% while 60.9% of households whose householders were jobless belonged to the bottom 20%. Office worker-headed households were evenly distributed across all income quintiles except bottom 20%. Households headed by skilled production workers were distributed relatively scarcely in the highest and lowest income classes and mainly in the middle classes. Meanwhile, laborer-headed households were concentrated in the bottom two income classes, while the proportion of such households distributed in the top two classes was relatively low.



[Figure 4-10] Income quintile mix by job category

Source: National Statistical Office, Household Survey, raw data

chapter 4_Income and Consumption by Household Typein 2010



[Figure 4-11] Poverty rates by job category

Source: National Statistical Office, Household Survey, raw data

White collar professionals showed extremely low poverty rates in both absolute and relative terms. For office workers and skilled production workers, the absolute poverty rates based on minimum cost of living and the relative poverty rates based on 40% and 50% median incomes were low while their relative poverty rates based on 60% of median income were relatively high at 11.0% and 10.7%, respectively. On the other hand, the absolute poverty rates of laborer-headed households and especially non-employed households were as high as 10.6% and 38.1% each.



Conclusion and Implications



Chapter 5 Conclusion and Implications

Section 1. Summary and Conclusion

This study has sought to empirically review the income and consumption expenditure trends of Korean households and thereby infer change in the class structure.

In Chapter 2, we have taken a look at the income trends of four-person households from 1990 through 2010 to see how Korea's poverty, inequality and class structure have changed. Except during the two economic crises, the real income of four-person households has consistently risen for the past two decades, while the growth of income has stagnated. Especially during this period, the real market income of the bottom 20% has rather declined, adding to the instability of lower classes in the labor market. As a result, the top 20%/bottom 20% disparity level went up from 4.0 in 1990 to 4.6 in 2010.

As this study focuses on four-person households, their poverty rate is somewhat stable and low when compared to all households. The poverty rate of these households has been kept at around 5-7%, except for the period of the Asian financial crisis when the rate rose above 10%. Their Gini coefficient has also been kept below 0.3, but unlike the poverty rate, it has remained almost the same without any major decline since soaring in the wake of the Asian financial crisis. It is also worth mentioning

that the importance of spouse income has been growing as its proportion in total ordinary income has become greater during the period. Gini decomposition results suggest that spouse income contributes to aggravating the overall inequality of ordinary income, but more in-depth research would be needed in this regard as this is a very sensitive subject and is in stark contrast to what is found with the iterative method. It should be noted, however, that the share of public transfer income increased during the period and that public transfer income helped lower the Gini coefficient for ordinary income. This is presumably because Korea established a public assistance system that encompasses poor people who are able to work. Also, a series of programs have recently been introduced for the working poor, including the earned income tax credit system.

The job category distribution of four-person households shows how fast the shift to service industries and improvement in educational attainment of workers have been realized for the past 20 years. The share of highly educated white collar workers rose sharply from 21.8% in 1990 to 50.3% in 2010, while that of low-educated blue collar workers dropped from 50.8% to 24.5% during the same period. The real income of professionals, office/sales workers and skilled production workers jumped over 30% over the last 20 years, but the real income of laborers increased a meager 2.8%, implying that key causes of increase in the working poor during the period are directly associated with the poor treatment of laborers. In fact, the poverty rate of laborer-headed households went up over 10%p from 28.2% to 38.4%.

In Chapter 3, we have sought to understand change in the

Chapter 5_Conclusion and Implications

living patterns and class structure based on the consumption behavior trends over the last two decades. First of all, it deserves our attention that the consumption expenditure of lower quintiles showed above-average growth during the period, far exceeding their past income growth. Against this backdrop, deficit household ratios surged considerably. The share of deficit households in bottom 20% rose from 35.8% in 1990 to 60.4% in 2010, and that of deficit households in second 20% also went up from 16.3% to 35.9% during the same period. Recent concerns over the issue of household debts also have to do with such cumulative household deficits. What is most striking about the consumption expenditure of four-person households is a sharp increase in education expenses during the past two decades. The proportion of education expenses in total consumption expenditure jumped from 8% in 1990 to 19% in 2010 across all income quintiles. The share of education expenses increased from 6.2% to 16.8% in lowest 20% households and from 10.0% to 20.9% in top 20% households. As a result, the absolute and relative contributions of education expenses to consumption expenditure inequality have also become significantly greater. During the period, the craze for private education has had considerable impacts on the increase of consumption expenditure across all classes, further cementing educational inequality. This would bring about greater implications when associated with class mobility.

In Chapter 4 we examined income and consumption expenditure in 2010 by household type and job category of householders. One of the most remarkable characteristics is the extremely high

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poverty rates of elderly households and single-person households (including non-elderly ones), which led them to be concentrated in lower income classes. Elderly households are heavily dependent upon transfer income; they also face huge burdens of medical and housing expenses in expenditure. Meanwhile, three- and four-person households consisting of married couple and minor child/children have much lower poverty rates, with the earned income of householders and spouses accounting for most of their income. Four-person households and mother-child households are also characterized by the large share of education expenses (around 20%) in consumption expenditure.

Section 2. Policy Implications

The past two decades have been tumultuous years for Korea both economically and socially. Once overshadowed by rapid economic growth, desires for democratization finally exploded; with the demise of Communist states, economic globalization led by the United States began in earnest during this period. In the meantime, Korea suffered two economic crises and its labor market became increasingly flexible. In response to growing demands and desires for social welfare, a series of welfare schemes were adopted. Also, Korea became a highly educated society, as over 80% of high school graduates entered universities, with private education being allowed and universities given empowerment to introduce autonomous admission policies. The earlier parts of this study have been intended to examine change in income and consumption over the past 20 years, while its later parts focus especially on the impact of changing educational policies on class mobility during the period.

The policy implications of change in income and consumption expenditure can be summarized as follows: First, creating a large number of "decent jobs" is important, but strenuous efforts should also be made to improve the treatment of "jobs under poor conditions." Given inflation rates, the real income of the bottom 20% and blue collar laborers has rarely risen for the past 20 years. It is in this context that the issue of working poor is recently emerging as a serious social problem and that the low wages of irregular workers - especially agency workers - are at issue. Korean society tends to focus more on "excellence" in both education and labor markets. This socioeconomic system, of course, has contributed greatly to the country's rapid economic development, but it would be hard to achieve social unity and sustainable development unless we revisit, address and substantially reduce problems facing lower-income classes. This means that greater endeavors are needed on income distribution through the labor market as well as income redistribution by means of social welfare.

Second, a wide variety of social welfare schemes and corporate infrastructure should be developed to improve women's economic participation. Earlier analyses have pointed out that the proportion of spouse income in household income has increased dramatically over the past 20 years, helping reduce poverty rates considerably. Nevertheless, the economic participation rate of Korean women stood at 49.2% in 2010, up by only 2.2%p from 1990. This

rate is one of the lowest among OECD member states. Also, their economic participation rates by age show a clear "M" shape. In other words, women's labor force participation declines significantly during the period of childbirth and child rearing from their late 20s to early 40s. This indicates that there are numerous obstacles facing women raising children. Especially for low-income women, their economic participation rate would be hard to improve as long as their expected income from economic activities remain lower than opportunity costs arising from such activities (i.e. sum of financial costs to replace child rearing by mother, costs of alternate labor by other family member and psychological costs). Therefore, is it necessary to make the real costs of child rearing and education largely public. The economic participation rate of women in Nordic countries is as high as 70% for a vast majority of such costs are shared by governments and enterprises. In modern society where the man-as-main-breadwinner model is no longer as valid as it used to be in the past, the only way to enhance childbirth and female economic participation at the same time would be to establish a system for "social child rearing" that involves families, governments and enterprises.

Third, what is most noteworthy about change in consumption expenditure over the last 20 years is that education expenses have grown dramatically in both absolute and relative terms. Education expenses for two children stood at 108,000 Korean won in 1990 but rose by over 400,000 Korean won to 510,000 Korean won in 2010. This indeed is an astounding increase as the figures are real prices with inflation rates reflected and are only about children under 18. Besides, the absolute gap in

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education expenses among income classes has further widened during the period. In 2010, the bottom 20% spent an average of 310,000 Korean won in education expenses, compared to 790,000 Korean won spent on average by the top 20%. Given their strong marginal propensity to consume, it is too much for lower-income classes to spend around 20% of their total expenditure on education. It is worrisome that the gap between them and their higher-income counterparts in education spendings keeps on widening despite all that. Against this backdrop, the "succession of social standings" is highly likely to be reinforced, where the socioeconomic standings of parents are passed down to their children. Education clearly is part of public goods for the sake of not just national economic development but also human dignity. Lessening the burdens of education expenses household consumption and other expenditure facing lower-income classes is as important a function of social welfare as providing them with direct financial transfer. In order to lighten burdens on household finance as well as to make substantial investment in future generations and improve social equity, reinforcing public investment in education should become our top priority.

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