

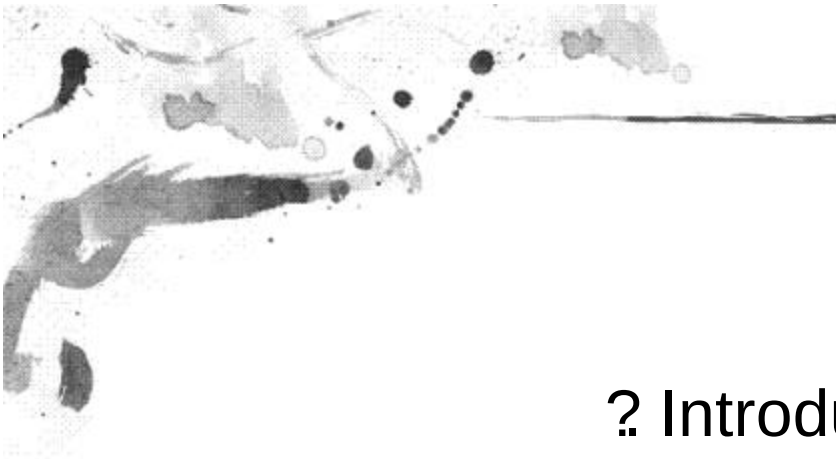


Financial Crisis and Intergenerational Transfer in Korea Using 1996, 2000, and 2005 NTA

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? Introduction

In recent 10 years, Korea has experienced various socioeconomic changes

- suffered lots of the economic difficulties through the financial crisis in 1997 and entered the aging society in 2000,
- has increased the welfare budget.

➔ This study attempts to analyze the effect of the intergenerational transfer caused by the financial crisis and aging in Korea using 1996, 2000, and 2005 NTA.

?. Financial Crisis and Population aging

Korea established the rapid growth since 1970s. But suffering the financial crisis in end of 1997, it underwent the sharp economic slump.

<Table 1> Key Economic Indicators of Korea

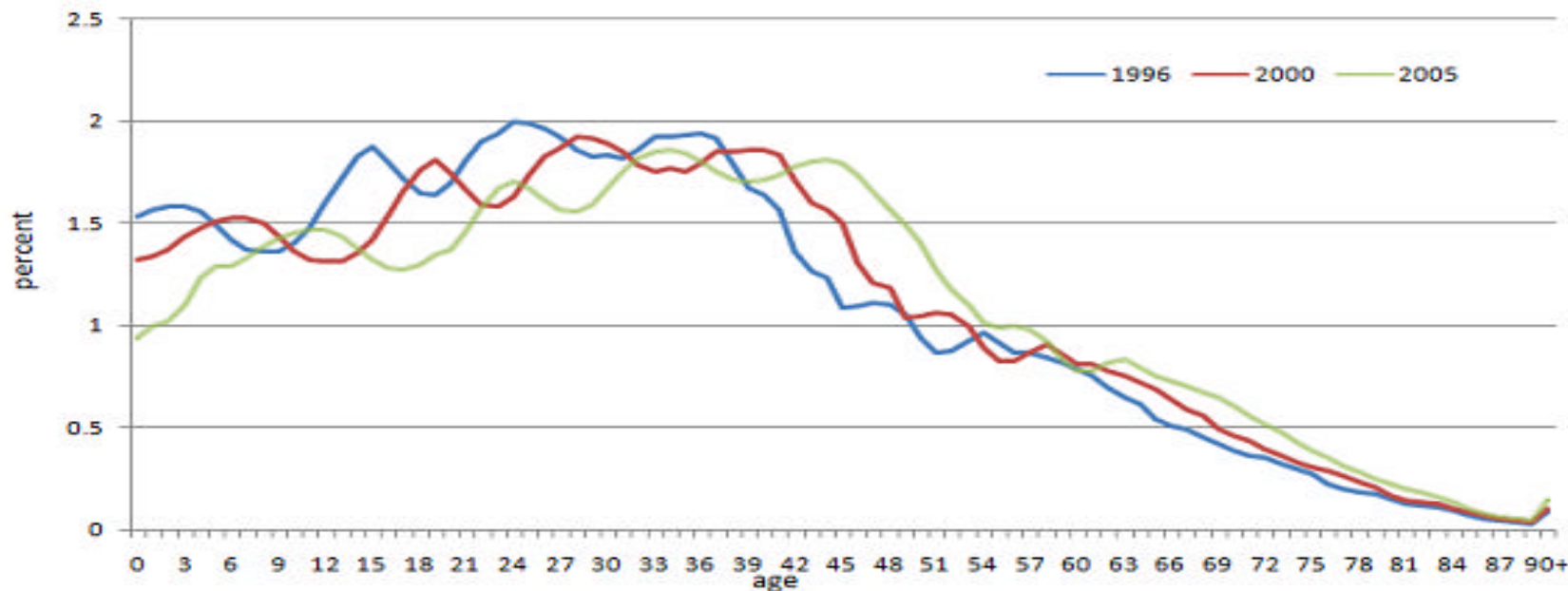
Year	Per Capita GNI (US \$)	Real GDP Growth Rate(%)	Gross Domestic Investment Ratio(%)	Gross Saving Ratio(%)
1962	87	2.1	11.8	11.0
1970	254	8.8	24.8	17.8
1979	1,676	6.8	36.0	30.2
1986	2,643	10.6	29.4	34.9
1989	5,418	6.7	33.8	37.6
1996	12,197	7.0	39.0	35.5
1997	11,176	4.7	36.1	35.5
1998	7,355	-6.9	25.2	37.5
1999	9,438	9.5	29.3	35.3
2000	10,841	8.5	31.1	33.7
2005	16,291	4.0	30.2	32.9

Source: The Bank of Korea (2006), [The Korean Economy]

Korea had experienced the dramatic demographic transition.

- Total fertility ratio : 1.58 in 1996 -> 1.08 in 2005
- Life expectancy : 73.96 in 1996 -> 78.6 in 2005
- Youth dependency rate : 22.9 in 1996 -> 19.1% in 2005
- Old age dependency rate :
6.1 in 1996 -> 7.2 in 2000(aging society) -> 9.1% in 2005

[Figure 1] Population distribution by age in Korea



? . Application of NTA in Korea

The various data are used to estimate NTA in Korea.

- National Survey of Household Income and Expenditure (NSHIE): 1991, 1996, 2000

This survey investigates yearly income and expenditures, durable goods, assets, and liabilities of household in detail from the national sample household.

- Household Income and Expenditure Survey(HIES): 1963~
 - 1963 ~ 2007, excludes rural non-farm & one person households
 - since 2003, include rural non-farm households
 - since 2003, include one person households
- Longitudinal Survey ;
 - Korean household panel study (KHPS) : 1993~1998
 - Korean Labor and Income Panel Study(KLIPS):1998~
- Statistical Yearbook of Public institutions ; NPSY, NHISY

<Table 4> Estimation methods and data sources

NTA	Estimation methods	Data Sources
Education, private	Regress on enrollment and age	NSHIE, HIES
Health, private	Regress on age	NSHIE, HIES
Imputed-rent, Others, private	Equivalence scale	NSHIE, HIES
Education, public	Age- & education level- specific enrollment rate	OECD education
Health, public	Age distribution of benefits	NHISY
Others, public	Per capita basis	NA
Compensation of employees	Wage of wage workers	KLIPS, KHPS
Entrepreneurial income	Income of non-wage workers	KLIPS, KHPS
Asset income, private	Net property income of households	NSHIE, HIES
Savings, private	Residuals	
Asset income & financial asset Accumulation, public	Age distribution of tax burden	NA
Capital and land accumulation, public	Age distribution of population	NA
Social insurance & tax	Generational accounting	Auerbach, Chun
Inter-household transfers	Private subsidy and remittance of households	NSHIE, HIES
Intra-household transfers	Net transfers=consumption - disposable income	KLIPS, KHPS

<Table 3> National Transfer Accounts, Aggregate Values

(Billion won)

	Current prices			Constant prices		
	1996	2000	2005	1996	2000	2005
Life-cycle Deficit	15,116.8	65,982.1	108,426.4	20,619.3	77,748.6	108,426.4
Consumption	288,332.6	382,398.2	541,528.8	393,284.5	450,590.6	541,528.8
Public	52,138.5	70,097.7	114,838.2	71,116.7	82,598.1	114,838.2
Private	236,194.1	312,300.5	426,690.6	322,167.8	367,992.5	426,690.6
Labor income (-)	273,215.8	316,416.1	433,102.4	372,665.2	372,842.0	433,102.4
Age Reallocation	15,116.8	65,982.1	108,426.4	20,619.3	77,748.6	108,426.4
Asset-based Reallocations	15,261.7	65,338.0	110,967.3	20,816.9	76,989.6	110,967.3
Net income asset	116,856.2	176,327.6	265,091.2	159,391.4	185,089.0	265,091.2
Net saving(-)	101,594.5	110,989.6	154,123.9	138,574.5	108,099.4	154,123.9
Transfer	-144.9	644.1	-2,540.9	-197.6	759.0	-2,540.9
Public	0.0	0.0	-0.1	0.0	-0.0	-0.1
Private	-144.8	644.1	-2,540.8	-197.5	759.0	-2,540.8
Consumer price index (2005=100)	73.314	84.866	100			

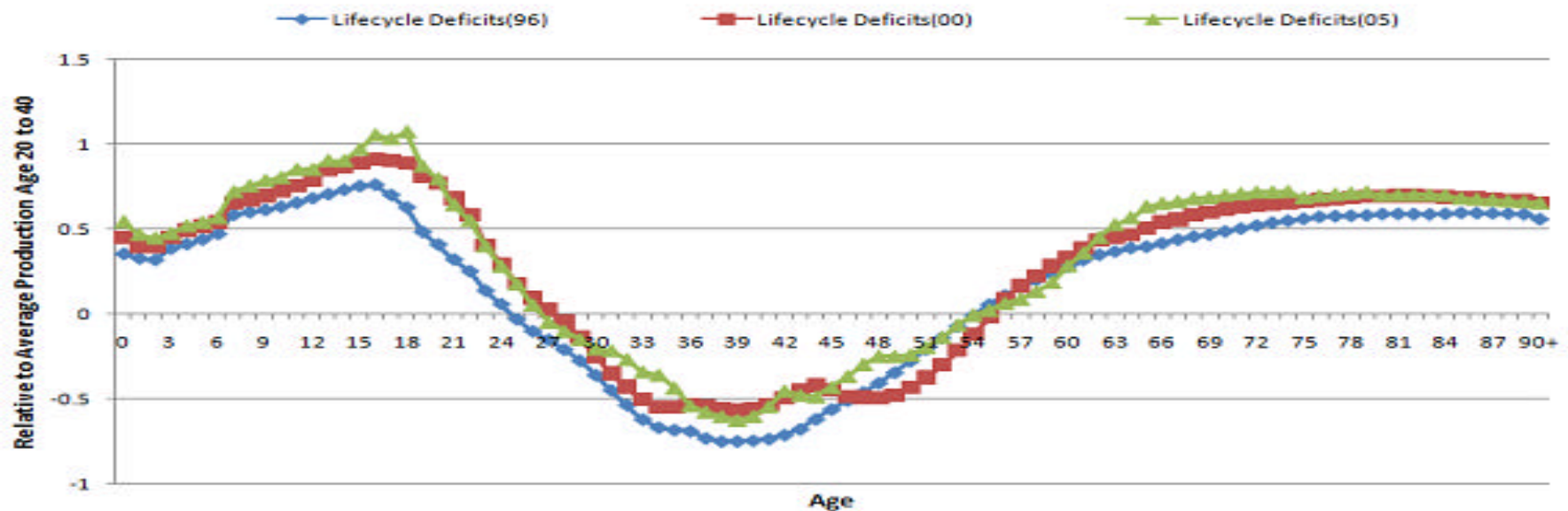
Notes : Some figures of individual categories may not be equal to the total because of individual rounding off.

? . Results and Implication

1. Lifecycle Deficit

They are divided into the surplus in the age of 0~24, the deficit in 25~54, and surplus in over 55 in 1996, and the surplus in 0~27, the deficit in 28~55 and the surplus in over 56 in 2000, and the surplus in 0~25, the deficit in 26~54, and the surplus in over 55 in 2005.

[Figure 2] Lifecycle Deficit, Per capita mean

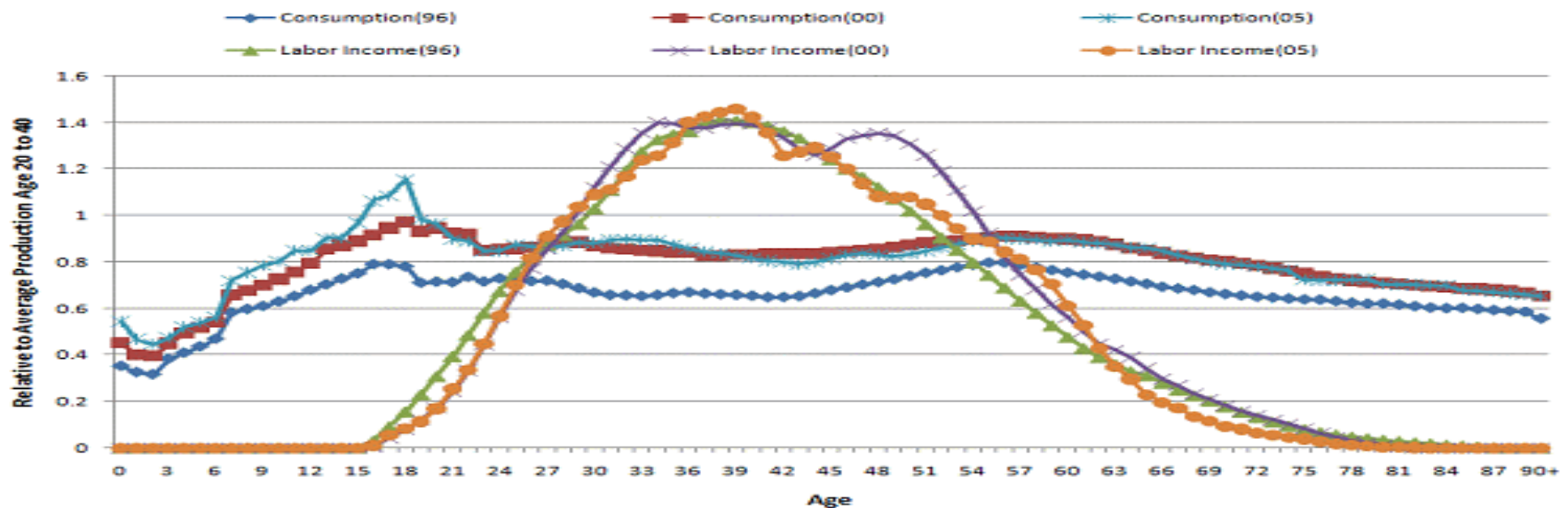


The age profile of the production was showed to be almost similar excluding middle aged in 2000.

The consumptions reached the peak at the graduation age of high school, and thereafter were under the tendency of the continuous decrease except in 1996.

And the consumption of the young increased a little since the educational consumption of the young increased remarkably in 2005.

[Figure 3] Consumption and Labor Income, Per capita mean



It was showed that the consumption decrease of the young is recovered before the financial crisis, but the elderly isn't.

<Table 5> Consumptions by age

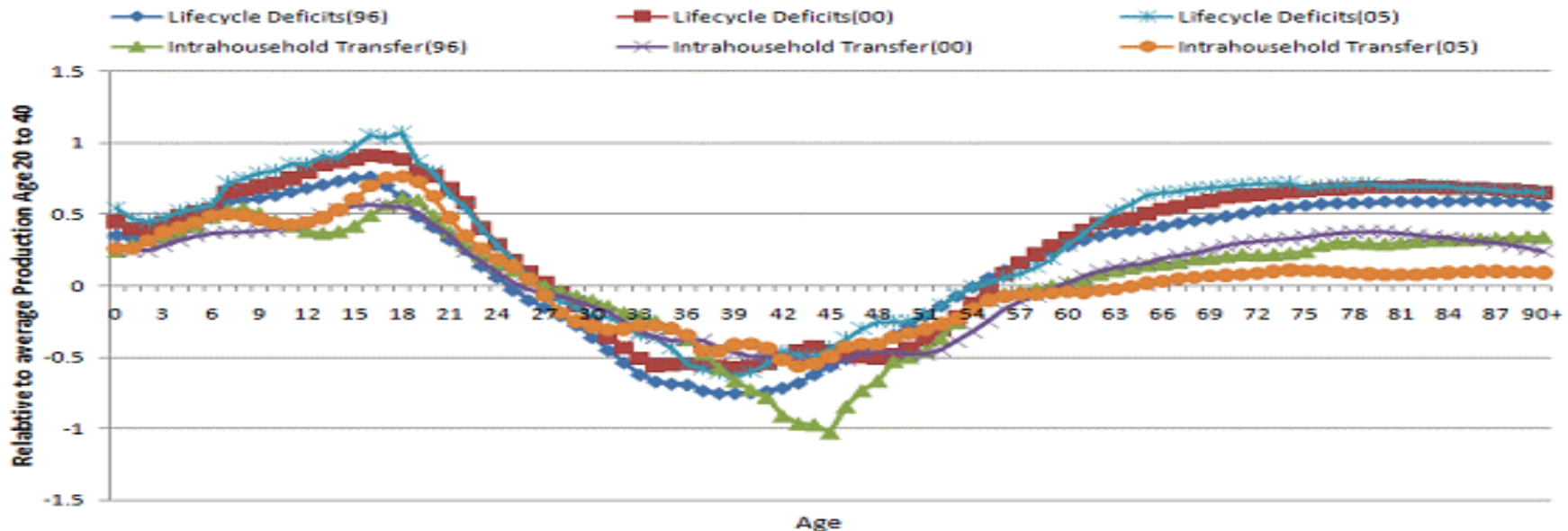
(Unit : Relative to Average consumption age 20 to 64)

	0~19			20~64			60+		
	1996	2000	2005	1996	2000	2005	1996	2000	2005
Consumption	0.84	0.81	0.91	1.00	1.00	1.00	0.93	0.90	0.90
Non- Consumption	0.79	0.76	0.85	0.88	0.89	0.88	0.76	0.70	0.68
Health Private	0.01	0.01	0.02	0.04	0.04	0.04	0.06	0.06	0.08
Health Public	0.11	0.02	0.02	0.02	0.02	0.03	0.04	0.07	0.09
Education Private	0.16	0.14	0.17	0.01	0.02	0.02	0.00	0.00	0.00
Education Public	0.11	0.13	0.17	0.01	0.01	0.01	0.00	0.00	0.00
Imputed Rent	0.03	0.03	0.03	0.06	0.05	0.05	0.08	0.09	0.07
Others Private	0.45	0.54	0.45	0.75	0.75	0.73	0.69	0.66	0.62
Others Public	0.12	0.14	0.14	0.11	0.11	0.12	0.12	0.12	0.14

2. Reallocation System

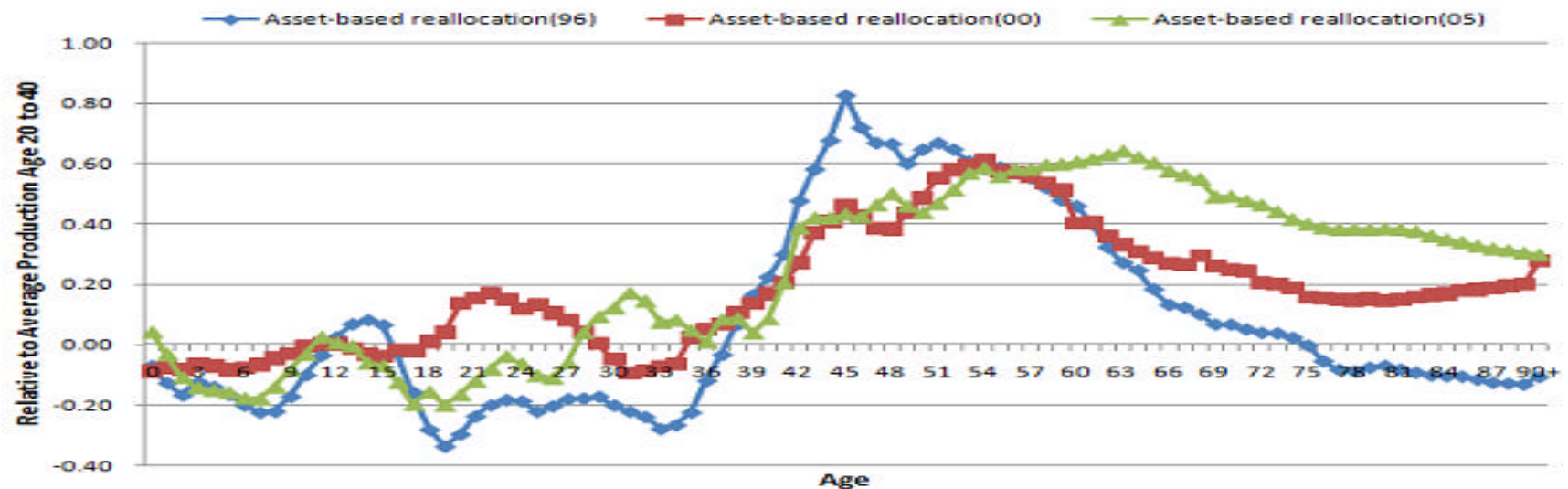
The reallocation to fill the lifecycle deficit was made mostly in the transfer. As shown in [Figure 9], especially the pattern of the reallocation is similar to the intra-household transfer.

[Figure 9] Lifecycle deficit and Intra-household Transfer



There was a big difference in the age reallocation during the compared years. In the over 60's in 2000 and 2005, the ratio of the asset-based reallocation increased.

[Figure 10] Asset-based reallocation, Per capita mean

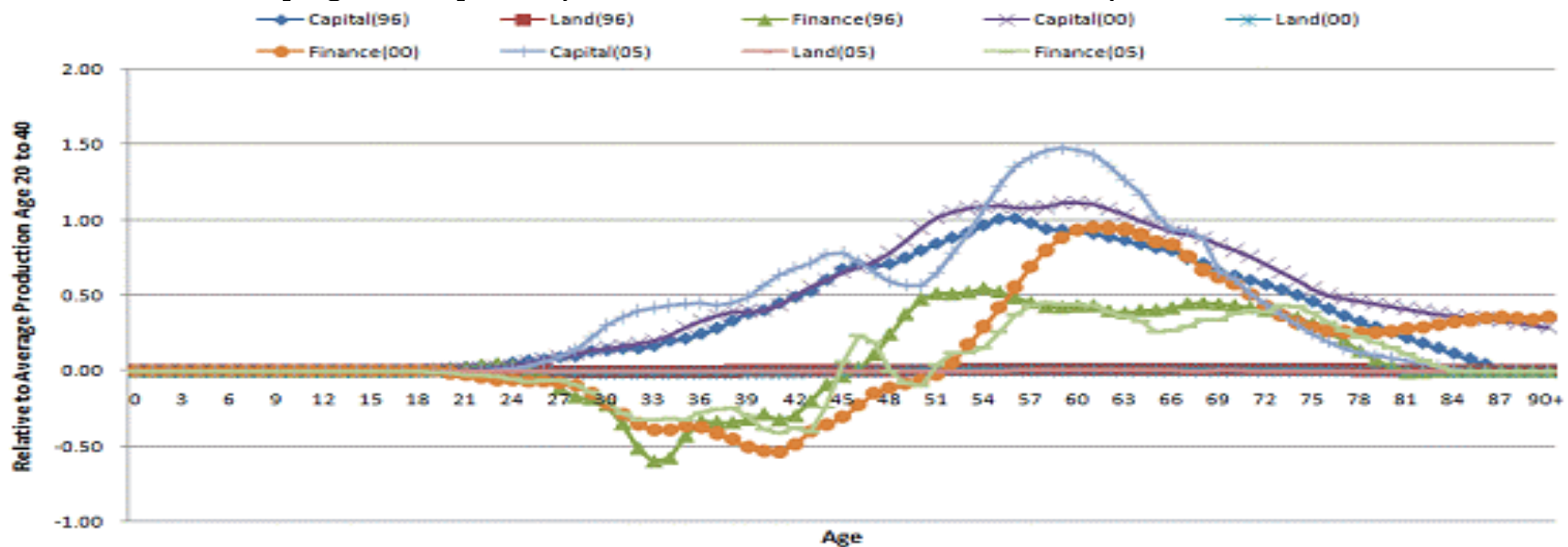


In 2005, the finance and capital income of the over 55's increased greatly, especially for the over 75's.

These changes seem to be the result of the bubble in real estate prices because of low interest policy after the financial crisis.

In Korea, Junse system involves placing a temporary deposit the proportion of the housing price during the rental period instead of paying rent every month. This deposit can be used as a finance income for the lessor.

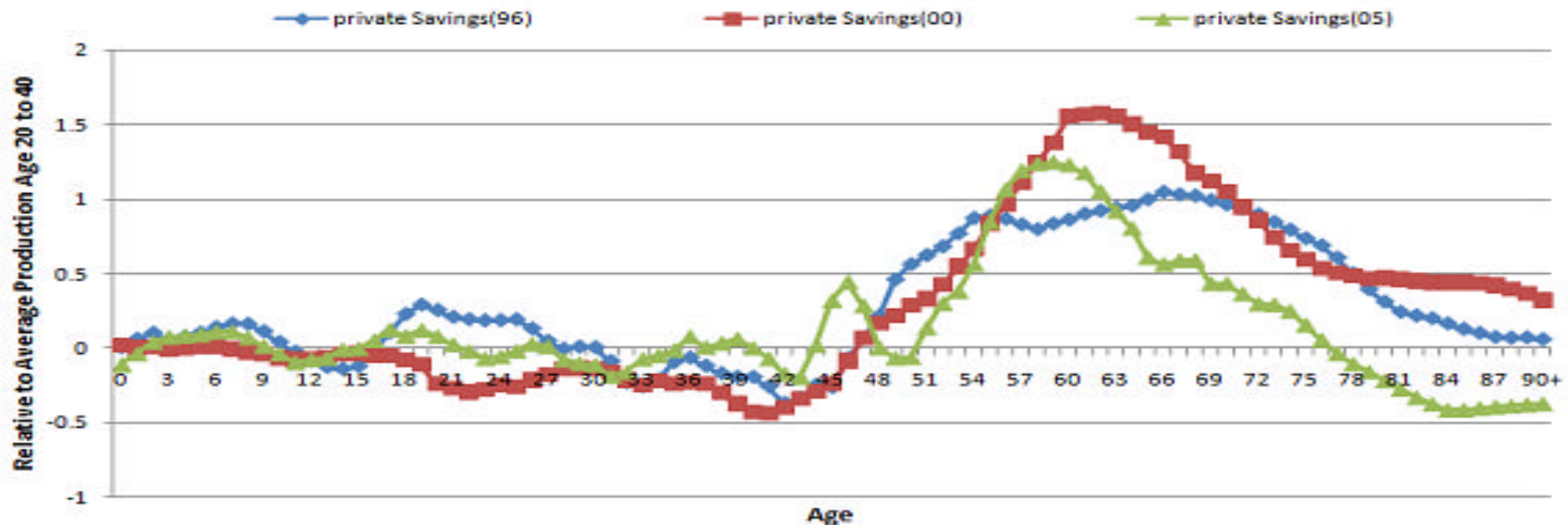
[Figure 12] Component of Asset Income, Per capita mean



The elderly over late 70s showed a -0.5 level of dissaving in 2005. This can be one explanation for the decline of individual saving rate(from 13.7% in 1996 to 6.3% in 2005).

As the aging of society progresses and dissaving is used as an income source after retirement, saving rates will continue to decline.

[Figure 13] Private Saving, Per capita mean





The asset-based reallocation of the young decreased, but the transfer increased.

The asset-based reallocation of the elderly increased sharply about thirteen times in the amount, the transfer decreased about one second on the contrary.

<Table 6> Component and Ratio of Age Reallocation by age, Per capita, Constant prices
(Unit : 10 Thousand, %)

		1996		2000		2005	
		Mean	Ratio	Mean	Ratio	Mean	Ratio
0~19	Asset-based reallocation	-1,438.8	-20	-454.7	-6	-1,304.6	-13
	Transfer	8,793.7	120	8,600.1	106	11,721.9	113
65+	Asset-based reallocation	482.6	7	2,629.5	36	6,327.6	68
	Transfer	6,044.2	93	4,677.6	64	2,934.1	32

Both the young and the elderly increased the public transfer and decreased the private one. However, the variation of the young was small.

In 1996, the public transfer of the elderly was 16.9%, but increased greatly to 68.7% in 2005. The public transfer for the elderly doubled from 1996 to 2005 in the amount, and decreased 20% for private transfers.

<Table 7> Component and ratio of Transfer by age, Per capita, Constant prices

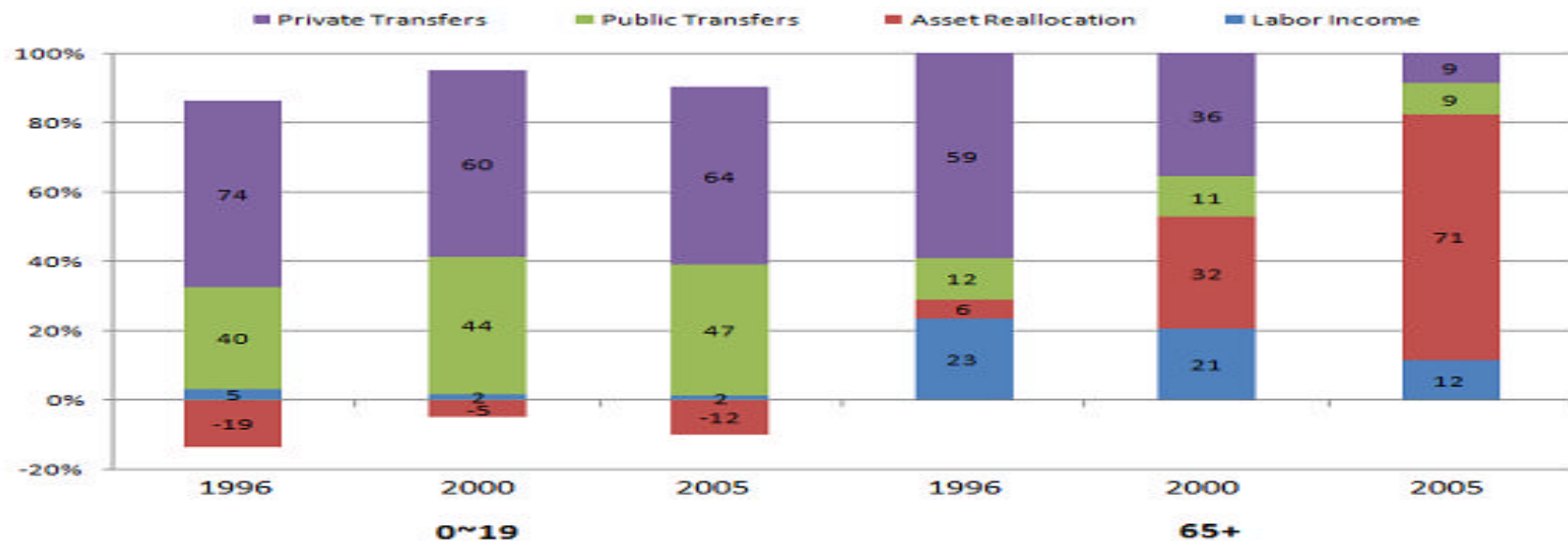
(Unit : 10 Thousand, %)

		1996		2000		2005	
		Mean	Ratio	Mean	Ratio	Mean	Ratio
0~19	Public	3,096.8	35.2	3, 635.8	42.3	4,982.2	42.5
	Private	5,696.9	64.8	4,964.3	57.7	6,739.7	57.5
65+	Public	1,019.8	16.9	1,388.9	29.7	2,015.2	68.7
	Private	5,024.4	83.1	3,288.7	70.3	918.9	31.3

3. Sources of Support

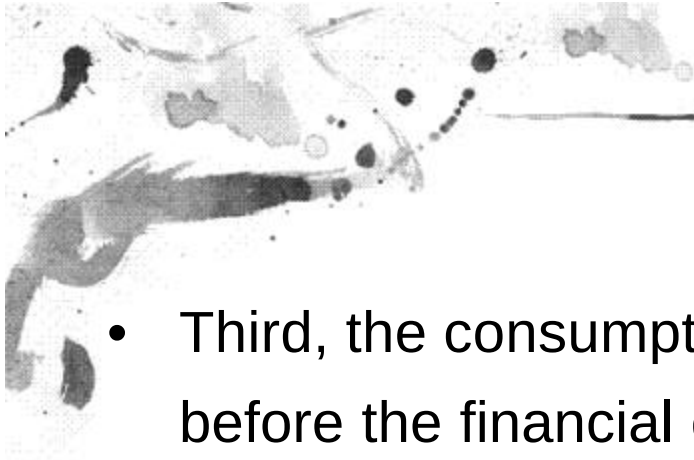
The public transfer of the young increased from 40% in 1996 to 47 % in 2005, and the asset-based reallocation of the elderly increased from 6% in 1996 to 71% in 2005.

[Figure 17] Finance of Consumption

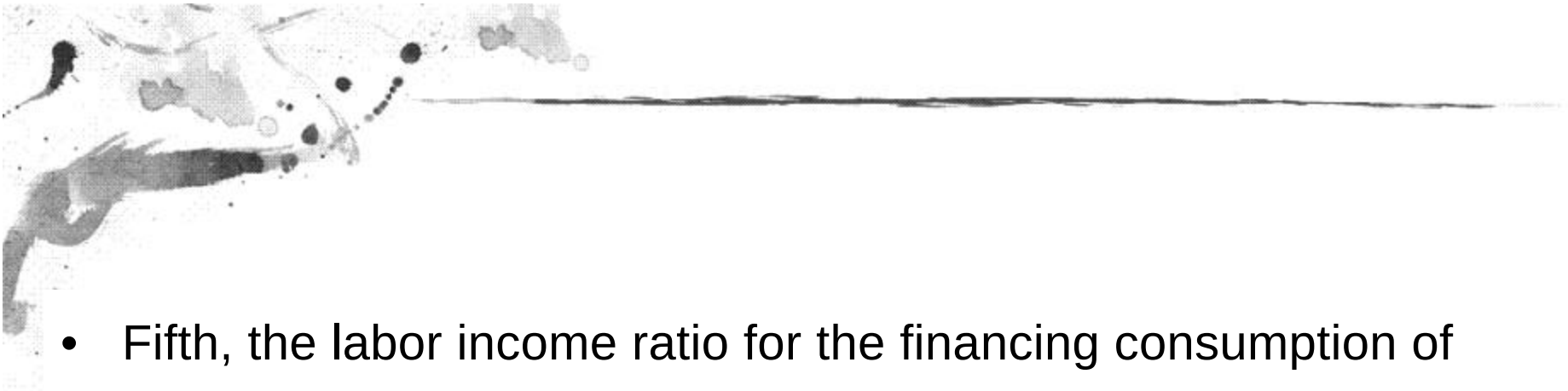


? . Conclusions

- First, the asset-based reallocation of the elderly increased remarkably after the financial crisis and the transfer decreased. It can reduce the governmental burden for the financial extension caused by the aging population.
- Second, it was confirmed that the public transfer increased and the private transfer decreased. Because the change in the private transfer of the elderly was larger, it can be known that the influence caused from the economic crisis was larger in the elderly.



- Third, the consumption decrease of the young is recovered before the financial crisis, but that of the elderly isn't. However, the public health consumption of the elderly increased on the contrary.
- Fourth, the aging population in Korea is highly likely to lead to the decrease of saving rates. The decrease of saving is a main obstruction on economic growth, and the increase of finance for the elderly will increase the burden of the government.

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- Fifth, the labor income ratio for the financing consumption of the elderly is decreasing. We have not to present simple jobs but good-quality jobs for the elderly through the enhancement of the labor productivity.



Thank you!