WORKING
PAPER

Income and Poverty among Older Koreans

Relative Contributions of and Relationship between Public and Family Transfers

JINKOOK LEE AND DRYSTAN PHILLIPS

WR-852

April 2011

This paper series made possible by the NIA funded RAND Center for the Study of Aging (P30AG012815) and the NICHD funded RAND Population Research Center (R24HD050906).

LABOR AND POPULATION

Income and Poverty among Older Koreans: Relative Contributions of and Relationship between Public and Family Transfers

LEE Jinkook

and

PHILLIPS Drystan

Abstract

We examined the economic wellbeing of the Korean elderly and their reliance on public and private transfers. Under-developed public transfer programs are at the center of heated political debates, and better understanding of economic wellbeing and the relation between public and private transfers will provide further insights in evaluating policy reform proposals under consideration. Using data from the 2006 and 2008 Korean Longitudinal Study of Aging, we found that the elderly poverty rate between 2006 and 2008 decreased significantly but was still significantly higher than other OECD countries. This poverty reduction did not benefit individuals who were older, less educated, living alone, living in rural areas, or in poor health. We found that low income elderly who co-reside depend almost completely on the income of their children or other household members. Public transfers account for no more than a third of income for low-income elderly, while private transfers accounted for half. Our analysis suggests that crowding-out is not a real concern in increasing welfare transfers for the low-income elderly.

1. Introduction

The elderly population of the Republic of Korea (hereafter Korea) is growing rapidly: the share of persons aged 65 and over will increase from about 3% in the 1970s, to 11% today (out of about 49 million people, in total), to about 33% in the 2040s; and those aged 80 and over will pass from virtually nothing in the '70s, to 2% today, to perhaps 10% in 2040 (http://www.kosis.kr/eng). Sharply decreasing fertility, from nearly five children per woman in 1970 to just over one today, and increasing life expectancy, from just over 60 years in the early 1970s to 80 years today, are contributing to this change (KNSO 2009).

Economic wellbeing often declines for people at older ages. Withdrawal from the labor force and deteriorating health contribute to a greater risk of poverty. The risk of elderly poverty varies greatly across countries, particularly by the generosity of public transfers (Zaidi, Grech and Fuchs 2006). Public transfers consist of two major components: public pension, to which individuals contribute during their working age, and welfare programs, which tend to have eligibility restrictions such as means-testing or age.

Almost all public pension programs have a redistributive component distinguishing them from private savings. Unlike those in developed countries which provide old-age income security, public pension benefits in most developing countries seldom provide adequate income support. Welfare programs in most developing countries are also quite limited. Korea has had remarkable economic growth in the past four decades and it has moved from being a developing to a developed country. Despite the country's rapid economic growth, however, the economic wellbeing of the Korean elderly remains at great risk.

The poverty rate of Koreans 60 and older in 2000 was 32%[1], three times that of the non-elderly (Park et al. 2003): a high level partly caused by an immature pension program and limited government welfare spending.

Private transfers play an important role in many developing countries, including Korea, where public transfers are inadequate and traditional family solidarity is deeply rooted in the society. Yet Korean societal values have shifted with industrialization and urbanization. The erosion of traditional Confucian values has adversely influenced the economic wellbeing of the Korean elderly in two ways: decreasing levels of multigenerational co-residence where children provide old-age support (Sung 1995; Levande, Herrick and Sung 2000) and reduced financial assistance from children (Kwon 2001).

[1] And also in 2006 (Lee and Lee 2009).

Korean elderly face rapidly declining family support but slowly increasing public support. The adverse consequences of this shift are evident in high suicide rates among the elderly. Korean suicide rates (per 100,000 persons) are 97.3 for those aged 75 and older and 59.8 for age 65-74, while that for the general population is 21.9 (WHO 2009). Among those 75 and older, Korean suicide rates are 14 times those in the United Kingdom (6.8) and five times those in the United States (16.8).

In this paper, we examine the economic wellbeing of Korean elderly. We first provide background on public and private transfers in Korea and the relationship between them. We then examine several measures of income and poverty for community-residing adults at least 65 years of age using the Korean Longitudinal Study of Aging (KLoSA). We then examine sources of income for the elderly, paying particular attention to living arrangements and sharing of economic resources with co-resident adult children. We investigate the contributions of public and private transfers to old-age income security by examining the relative contributions of public and family transfers to household income for the elderly. This is a particularly critical issue for policy reforms currently under consideration.

2. Public transfers in Korea

Korea first introduced a public pension scheme in 1960 with the implementation of the Government Employees Pension. This program expanded to include the Military Personnel Pension in 1963, the Private School Teacher's Pension in 1975, and the Specially Designated Post Office Personnel Pension in 1992. The National Pension Scheme (NPS), enacted with the National Pension Act in 1988, extended compulsory coverage over time to workplaces with ten or more employees in 1988, workplaces with five or more employees in 1992, rural workplaces with fewer than five employees, farmers, and fishermen in 1995, the urban self-employed and urban workplaces with fewer than five workers in 1999, finally becoming a universal scheme for the public in 2006 (NPS 2010).

The scheme is not pay-as-you-go: it is funded through contribution. The initial contribution rate was set at 3 percent in 1988 in order to give the system popularity and stability, but it was increased to 6 percent in 1993 and to 9 percent in 1998. For average earners with 40 years of contributions, the income replacement rate was initially set at 60 percent, but fiscal problems reduced this to 50 percent in 2008, with further reductions of 0.5 percent each year, down to 40 percent by 2028.

At least 20 years of contributions are required to be eligible, and therefore only a few elderly are current beneficiaries of the NPS. The age for pension eligibility was 60 years in 2008, but this is increasing by

one year each calendar year until it will reach 65 in 2013.[2] An age-eligible person with more than 10 but fewer than 20 years of contributions may receive a reduced old-age pension, while an early old-age pension is available at a reduced rate for persons reaching age 55 (with 55-year-old persons receiving 70 percent of benefits, and a 6-percent increase in benefits for each year one waits after age 55 to retire). For this early stage of the NPS, a special old-age pension program was developed for those who only contributed to the scheme between five and ten years.

As of 2010, 19.1 million persons were enrolled in the NPS and 2.3 million received old-age pension benefits (NPS 2010). The NPS also provides survivor benefits, annuities for disabled persons, and death benefits (one-time payments to defray funeral expenses). Divorced persons who were married at least five years during a spouse's insured period may be granted half-pension based on the marriage period once they reach age 60 (if their former spouse is already an old-age pensioner), even after re-marriage.

The National Basic Livelihood Security System (NBLSS), which is comparable to Supplemental Security Income in the United States, provides welfare benefits to the poor. Eligibility is based on means-testing and kinship: the NBLSS offers welfare benefits to those who do not have any relatives (defined as parents, spouses, children and their spouses, and siblings) legally responsible for, and capable of, supporting them. Such eligibility criteria assume that informal support mechanisms will otherwise provide full old-age income support.

In an effort to reduce elderly poverty and in implicit recognition of the weakening of kinship support networks, in January 2008 the Korean government introduced a means-tested income support program for the elderly (aged 65 and older), the Basic Old Age Support Pension (BOASP). Under the BOASP, about 60 percent of the elderly received 5 percent of the mean NPS benefit. This support is currently about 90,000 Korean won for individuals (equivalent to $90 US) per month and 144,000 Korean won for couples. The BOASP program expanded its coverage to 70 percent of the elderly based on means-testing of income and assets in 2009. BOASP means-testing does not consider private transfers. Unlike the NBLSS, it lacks kinship-based eligibility criteria. But the legislation about these matters is far from settled, and the frequent debates in the Korean Congress over the BOASP, the NPS, and the NBLSS, could lead to either expansion or reduction of each of these schemes - especially the BOASP.

The Korean government's spending for old age support is far lower than that in other developed countries. Table 1 shows public transfers, including both public pension and welfare programs, for old

[2] A special-occupation employee, such as a miner or a fisherman, is eligible for a pension between ages 55 and 60.

age support across all OECD countries from 1990 to 2007, as a percentage of GDP. The Korean government spent only 0.61% of GDP on public transfers for old age support in 1990, about one-tenth the OECD average (5.9%). Since then, pubic transfers for the elderly have increased only modestly. In 2007, the Korean government spent 1.6% of GDP on old age support, one-fourth of the OECD average (6.5%).

** TABLE 1 ABOUT HERE **

Reflecting such cross-country variations in public transfers, poverty rates among the elderly also vary by country. Table 2 shows cross-country differences in poverty rates for the population and the elderly, in early 2000s, where poverty is defined as having less than 50% of equivalized median income. Cross-country variations in poverty rates are much more pronounced among the elderly than the general population. For the total population, poverty rates range only from 10 (the Netherlands) to 21 percent (Greece); for the elderly population, they range from 2 (the Netherlands) to 32 percent (Korea). This table suggests that growing old in Korea bears much greater economic risk than in any other developed country.

** TABLE 2 ABOUT HERE **

3. Private (family) transfers in Korea

The erosion of traditional Confucian values has accelerated in the past five decades, beginning with the Korean War of 1950, the famine that accompanied it, and the drive for industrialization and economic growth. Traditionally, the family played a key role in supporting elders, with children, especially the eldest son, taking care of their parents (Sung 2000). In fact, the idea of preparing in advance for one's own retirement is a relatively new concept in Korea, given the tradition of children supporting their parents as well as historically short life spans (Kim and Choe 1992; Sung 1995).

As Confucian values have waned, clear signs of diminishing willingness to care for older parents have emerged. These signs have included declines in multigenerational co-residence (Sung 1995; Levande, Herrick, and Sung 2000) and familial support (Kwon 2001). In 1980, 76 percent of Koreans aged 60 or older reported family transfers as their main source of income; this proportion dropped to 57 percent in 1995 and 31 percent in 2003 (Kim 2007). At the same time, the proportion of Korean elderly who named public transfer as their main source of income increased from 2.0 percent in 1980 to 6.6 percent in 1995 to 25.6 percent in 2003.

4. The relationship between public and private transfers

Theoretically, the linkage between public and private transfers depends on the motives for private transfers, among which altruism and exchange are those most commonly cited. Becker (1974) describes private transfers as altruistic behavior, by which donors compensates recipients for disparities in earnings. Altruistic households could go as far as offset any changes in public transfers with private transfers (Barro 1974). Conversely, exchange theory views private transfers as strategic (Bernheim, Shleifer, and Summers 1985) and posits that donors obtain utilities not only from their and recipients' consumption but also from any services resulted from transfers (e.g., child care, visits). Under exchange theory, dollar-to-dollar transfers (often referred to as Ricardian equivalence, see Feldstein 1988) will not hold.

Empirical evidence suggests a limited link between public and private transfers: an increase in public transfers reduces only slightly the frequency and amount of familial transfers (Altonji and Villanueva, 2003). This is not necessarily inconsistent with altruism: since parents and children cannot observe each other's endogenous level of labor market effort and income (Feldstein 1988; McGarry 2000), the limited link can be explained by imperfect information or information asymmetry rather than transfer motive.

The goal of this paper, however, is not to examine the underlying motives of transfers. Instead, we examine the strength of the relationship between public and private transfer, using panel data to illuminate whether and how sensitive private transfers are related to changes in recipient's income. We will consider potential strategic components of transfers, such as services that can trigger transfers to parents (i.e., care for grandchildren), in models of private transfers. There have been a few empirical studies on crowding-out effects, but not much is known about these in Korea. Because Korea is still in cultural transition and continuing reform efforts on public transfers, it is important to understand how private transfers will change as public transfers do so.

5. Data and variables

We use data from the 2006 and 2008 waves of the Korean Longitudinal Study on Aging (KLoSA), a large-scale, longitudinal survey of the South Korean population ages 45 and older residing in the community. The baseline survey instrument was modeled after the Health and Retirement Survey and included detailed questions on income and assets, demographics, living arrangement, health, and labor force participation (Lee, 2010).

The baseline data were collected from August to December of 2006. A stratified multi-stage probability sample was drawn from the 2005 Korean Census. The first stage of sampling consisted of census enumeration districts stratified by the geographic location and characteristics of the enumeration districts (i.e., rural/urban and housing type). In the second sampling stage, households were sampled within the sampled enumeration districted. A total of 10,254 respondents completed the interview in the first wave.

The second, longitudinal wave of data was collected from July to November of 2008. Of the original cohort of 10,254 respondents, 187 were known to have died between waves, and an additional 1,379 did not complete the interview for other reasons. As a result, wave two of the study consisted of 8,688 individuals, almost 85% of the original group. No new households or respondents were introduced in this second wave.

We examine income and poverty of adults aged 65 or older, using the most recent version of KLoSA (2008), and compare the findings with 2006. In the baseline study, 4,155 respondents were 65 or older. Of these, 3,501 were re-interviewed in 2008. Among those who were age 63 – 64 in 2006 (N= 610), 534 respondents were re-interviewed in 2008.

The basic variables that we use are:

Poverty: We employ a relative measure of poverty, defining it as being below 50% of the median household income, as originally suggested by Fuchs (1969) and employed by numerous researchers (Iceland, 2005). To account for variation in the economic needs of households of different sizes, as well as economies of scale, we used a single parameter equivalence scale with 0.5 equivalence elasticity (Burkhauser and Smeeding 1996). But we also examine the sensitivity of outcomes by using an alternative: the OECD equivalence scale that gives different weights for additional adults (0.7) and children (0.5).

Income: KLoSA contains detailed information about different types of income that are components of aggregate income. All income values were after-tax income received in the year prior to the survey (i.e., 2005 and 2007). Under the study design, each respondent was asked detailed questions about his or her personal income. In this study, we examine income at the family and household levels.

Total family income is the sum of respondent's and spouse's income; total household income is the sum of all household members' income. By examining income at both family and household levels, we can evaluate the economic dependence of the elderly on their children (if they co-reside).

For the 4,035 individuals at least 65 years of age in the 2008 interview, we were able to compute total family income for 3,868 by summing their itemized income. We were unable to sum family income for

161 individuals who reported being married but whose spouse was not surveyed. We also were unable to examine income portfolios for 6 other individuals due to missing values of itemized income questions. Total household income was available for 4,020 individuals out of the 4,035, and un-reported for the remaining 15.

Among the types of personal income data in the survey are (1) earnings: wage or salary income; income from self-employment; income from a side job; (2) asset income: rental income from primary residence and other properties; interests/dividends and other investment income; (3) public pension income: occupational pension income for government workers, military personnel, railroad workers, private teachers, and postal workers; and income from the NPS; (4) public welfare transfers: income from government programs, including income from the NBLSS; income from unemployment insurance; workers' compensation; veterans' benefits; other welfare benefits; (5) private transfers: the total amount of financial help received. We defined financial help as giving money, helping to pay bills, or covering specific types of costs, excluding shared housing and food from the definition. Private transfers include all transfers from family and friends; and (6) other incomes such as alimony, loyalties etc.

We created a set of binary variables indicating whether a respondent or spouse received income from each source, and a set of continuous variables, indicating the share of each source of family income. The share of income refers to the total amount of income the elderly respondent and spouse received from a particular source, divided by total household income.

In estimating private transfers, we included pre-private transfer income as the determinants of the amount of private transfer. We defined pre-private transfer income as a continuous variable of total family income, excluding private transfers.

Because private transfers are influenced by donors' economic resources and service from parents to children, we include the following two binary variables. First, because KLoSA does not collect information about income for respondents' children, we included a binary variable of the children's home ownership to represent children's economic resources (base: none of the children owns a home). Second, we employ a binary variable indicating whether a respondent or spouse of respondent provided care for grandchildren.

Control Variables: We controlled for several time-varying characteristics of respondents: total family net-worth, living arrangements, urban/rural residence, and health status. Total family net worth is the sum of the total financial and non-financial wealth for a respondent and spouse less their debts. We categorized living arrangements as living alone; living with spouse (base); living with adult children

(with or without spouse); and living with others. We used a binary variable to indicate whether a respondent resides in urban or rural area, and a categorical variable of self-reported health status ranging from very poor to poor, fair, good, and very good health. We also control for respondent's demographic characteristics such as age, gender and education.

6. Models and research questions

We first report the poverty status of the Korean elderly by key socio-demographic characteristics, using the 2008 wave, with two equivalence scales. Since age, gender, living arrangements, urban/rural residence, health status, and education are known risk factors of poverty, we report the poverty rate (i.e., the percentage of the poor) for each sub-population. To account for design effects due to the sampling design, descriptive statistics are weighted and the standard errors are produced in accordance with the sampling design.

Using both waves of data, we then look into changes in poverty rate. We decompose such changes, first by looking into the changes in sample, separately for those who dropped out after the first interview and those who remained keeping their socio-demographic characteristics under control.

Second, we investigate the relative contribution of public and private transfers to old-age income security, by examining their income portfolios. In describing income portfolios of the elderly, we present first the sources of household income, indicating the proportion of elderly household receiving income from particular income sources (e.g., public transfers), and second the share of total household income from each family income source. We again look into the changes in income portfolio over time, specifically focusing on public and private transfers.

Finally, we will examine the relationship between public and private transfers by investigating the amounts of private transfers received in relation to family's pre-transfer incomes, using two waves of data available. Based on the exchange model of transfer, the amount of private transfer received by the i^{th} individual at time t (t=0, 1), $PrivT_{t,i}$, is modeled as a function of respondent's *Pre-transfer income*$_{t,i}$, economic status of children who are primary provider for the elderly, $Child\_ES_{t,i}$, care of grandchildren as service to children, $Care\_G_{t,i}$, and other time varying ($X_{t,i}$) and time invariant (Z_i) control variables:

$$1)\ E(PrivT_{t,i}) = \alpha + \beta_0 t + \beta_1\, Pre\text{-}transfer\ income_{t,i} + \beta_2\, Child\_ES_{t,i} + \beta_3\, Care\_G_{t,i} + \beta_4\, X_{t,i} + \beta_5\, Z_i$$

In the above model, α is an intercept. β_1 is the effect of pre-transfer income. β_2 is the effect of children's socioeconomic status. β_3 is the effect parents service to children. The time effect $\beta_0 t$ is used to account

for the natural growth trend. The following time-varying control variables are included in $X_{t,i}$: respondent's total family net-worth, living arrangements, urban/rural residence, and health status. The time-invariant variables (Z_i) include demographic information. Also included in Z_i is a dummy variable for the individual-level (fixed) effect.

Given that only two waves of data are available, the mean difference, or equivalently, the first-order difference is an efficient and consistent approach to fitting the panel data model (Greene 2003; Yang and Tsiatis 2001). The first-order difference approach also adds additional benefits when there are measurement errors in the covariates (Liker *et al.*, 1985). After taking first-order difference, the model (hereafter referred to as the first difference model) becomes:

$$2)\ E(\Delta PrivT_{t,i}) = \beta_0 + \beta_1 \Delta Pre\text{-}transfer\ income_{t,i} + \beta_2 \Delta Child\_ES_{t,i} + \beta_3 \Delta Care\_G_{t,i} + \beta_4 \Delta X_{t,i}$$

where the intercept β_0 results from the time effect. All financial variables are in the log scale before differencing. In fitting the first difference model, we have also adjusted for the survey design information, including the clusters, strata, and longitudinal sampling weights.

At first glance, the time-invariant covariates Z_i should not appear in the first difference model (2), because $\Delta Z_i = 0$. Nevertheless, this omission is valid under the assumption that the same time effect is shared among all individuals in the population, whereas some subgroups, e.g., female and male, may instead have distinct growth trends. This heterogeneity in time effect can be parameterized by the interaction term between Z_i and time t in (1). Note that the interaction tZ_i is time-varying by itself, and $\Delta(tZ_i)=Z_i$. This leads to the appearance of Z_i in the first difference model, where we also control for gender, education, and age.

7. Results

7.1 Poverty

First, we examine poverty rates of the Korean elderly aged 65 and older in 2008, using cross-sectional weights to obtain national representation (Table 3). We estimate the poverty rate to be 26%, using both the OECD equivalence scale and the single equivalence scale with elasticity = 0.5. This is significantly lower than the 32% rate we estimated from the 2006 KLoSA, using the same single equivalence scale (Lee and Lee, 2009).

** TABLE 3 ABOUT HERE **

Regardless of the equivalence scale used, poverty is higher among people aged 75 and older than it is among those aged 65 to 74, and among elderly women than among elderly men. Living arrangements also influence poverty, with poverty highest among those who live alone. Other rates by living arrangements are sensitive to the equivalence scale used. Under the OECD equivalence scale (applying different weights for additional adults and children), elderly couples had the lowest poverty rates; under a 0.5 single equivalence scale, elderly living with children had the lowest poverty rates. Because living arrangements are associated with urban or rural residence, poverty rates by residence also with the equivalence scale. There was no significant urban/rural difference in poverty rates when the OECD scale was used, but rural poverty was higher when the single equivalence scale was used. Finally, self-reported health status shows a close association with poverty: older people with poor health are more likely to be in poverty.

Using both 2006 and 2008 data, we look further into what has contributed to the reduction of poverty rates from 32% to 26%. First, we look at sample differences caused by attrition and respondents (i.e., those who were 63 or 64 in 2006) entering the sample. Second, among those who were in the sample in both years, we compare the changes in poverty rates across socio-demographic characteristics.

Table 4 presents the sample characteristics by interview status in 2006 and 2008. Compared with those who participated in both interviews, those who dropped out in 2008 were older, less likely to live with their spouse only and more likely to live with their children, more likely to reside in urban areas, and more likely to report very poor health. New entrants to the sample in 2008 were not only younger but included a greater portion of men than the older cohorts who were re-interviewed. The new entrants were also more educated, less likely to live alone and more likely to live with spouse, more likely to live in urban area, and healthier than those who were re-interviewed. Nevertheless, the difference in poverty rate for the new entrants and the older cohorts was only marginally significant ($p<.10$), and hence does not explain the significant reduction in poverty rates (poverty rates are based on the single equivalence scale).

** TABLE 4 ABOUT HERE **

Next, we examine changes in poverty rates by socio-demographic characteristics (Table 5). To account for attrition bias, we use longitudinal weights in our analyses. Overall, poverty among the elderly (i.e., age 65 and older) diminished from 30.4% to 26.5%. This decrease was not uniform: it was concentrated among those aged 65-74, with middle-school or high-school education, living with children and others,

in urban areas, or in very good, good, or fair health. Poverty rates for other groups did not change significantly.

** TABLE 5 ABOUT HERE **

7.2 Household Income Portfolios

Table 6 presents sources of household income by family income and living arrangements. Family income only accounts for respondent and spouse incomes. Not surprisingly, more than 95% of those who are at the bottom third of family income and live with children have income from other household members, indicating their dependence on their children. The proportions of those receiving income from children or other household members decrease as income level increases. Conversely, the proportion of families receiving income from earnings, assets, and pensions increases with income level. The proportion of families receiving income from welfare transfer decreases as income level increases but, surprisingly, at a modest rate. Among low-income families, 57% of families received welfare transfers, which is not significantly different from the proportion of middle-income families receiving such transfers. Even among families with high income, 43% received welfare transfers. The percent of families receiving income from private transfers is noticeably less for low-income individuals than for middle- and high-income individuals.

** TABLE 6 ABOUT HERE **

Table 7 further compares reported household-income portfolios in 2008 and 2006. The percentage of low-income individuals receiving income from other household members increased significantly from 52% to 58%. In 2006, the percentage of individuals receiving welfare transfers was highest for the middle-income group, but by 2008 the proportion of low-income individuals receiving such transfers had grown fastest and was the largest among the three income groups. The percentage of individuals receiving income from private transfers increased significantly for each income bracket, with the largest increase, from 73% to 83%, in the middle-income bracket. Significantly more low- and middle-income individuals reported income from earnings in 2008 while significantly fewer high-income individuals reported income from earnings. The percentage of individuals receiving income from pensions also increased significantly for middle and high-income individuals. These shifts in the sources of household income are informative on changing income streams but best understood by examining the shares of income that each component contributes to total household income.

** TABLE 7 ABOUT HERE **

Table 8 presents shares of income by source. Low-income elderly individuals living with their children received 91% of their household income from their children. Those not co-residing with children, especially those living either alone or with a spouse, also depend on family members, with about half of their household income from private transfers, a lower share than reported in 2006 (Lee and Lee, 2009). In 2006, 65% to 70% of income from low- and middle-income family's household incomes was from private transfers. Dependence on welfare transfers increased from 2006 to 2008. Among low-income elderly living alone or living with a spouse, less than one-fifth of income came from welfare transfers in 2006; by 2008, one-fourth to one-third did. Among low-income individuals, those living with children or other persons receive a lower share of income from public-welfare transfers than do low income individuals living alone or only with their spouse.

** TABLE 8 ABOUT HERE **

Table 9 compares mean shares of income by source in 2006 and 2008. Income composition shifted between 2006 and 2008 in several ways. Low-income individuals received a significantly smaller share of their income from assets and private transfers in 2008 than in 2006; conversely, they also received a significantly larger share of income from earnings and welfare transfers. Middle-income individuals received a significantly smaller share of their income from welfare transfers in 2008 than in 2006; conversely, they received a significantly larger share of their income from earning and private transfers. The decrease in welfare transfers for middle-income individuals was the largest shift of any one component of household income in any of the income brackets. Welfare transfers accounted for more than 10% of middle-income individuals' income in 2006 and less than 2% in 2008. High-income individuals received a significantly smaller share of their income from earnings in 2008 than in 2006; conversely, they received a significantly larger share of their income from pensions, private transfers, and other household members' income. Several of these shifts suggest that government welfare transfers may significantly affect private transfers, particularly for low- and middle-income individuals.

** TABLE 9 ABOUT HERE **

7.3 Crowding-out Private Transfers?

A possible crowding-out effect of public transfers on private transfers is suggested both in the baseline analysis of KLoSA data (Lee and Lee, 2009) and our descriptive longitudinal analysis. Table 10 presents the results of two first difference models. Model 1 does not control for any time-invariant variables. Model 2 includes the time-invariant characteristics: gender, education, and age. In both models an

increase in pre-private transfer income is associated with an increase in private transfers. A 1% change in pre-private transfer income is estimated to increase private transfers by 0.07%. Several time-variant variables were associated with changes in private transfers. For example, the transitions between living arrangements were estimated to have significant effects on the change in private transfers. Individuals who went from living with spouse to living with children experienced a decrease in private transfers compared with those living with spouse in both time periods. Individuals who went from living with children to living with others received more private transfers. Individuals whose health improved between 2006 and 2008 saw a decrease in private transfers. Individuals whose children acquired a house between 2006 and 2008 received more private transfers. On the other hand, caring for grandchildren was not significantly associated with the changes in private transfer amount. None of the time-invariant characteristics had a significant effect on changes in private transfers.

** TABLE 10 ABOUT HERE **

8. Discussion

While we found that overall poverty decreased for elderly individuals in Korea between 2006 and 2008, it did not do so for all individuals. In particular individuals who were older, less educated, living alone, living in a rural area, or in poor health did not see their poverty rate decrease, or not significantly.

For individuals in the lowest-income bracket, welfare transfers increased both as a source of income and as a share of total household income. Also for low-income individuals, private transfers increased as a source of household income but decreased as a share of total household income. This suggests that a greater proportion of elderly receive private transfers, but that the relative contribution of private transfers to elderly household income has reduced. Taken together, these findings suggest that both public and private transfers make significant contributions to the financial wellbeing of the elderly and that the increase in welfare transfers for low-income individuals was coupled with decreased family support.

Middle-income elderly saw large reductions in welfare transfers but increases in private transfers. Private transfers increased both as a source and a share of household income for middle-income individuals. Public pensions also increased as a source of income, but its share remains unchanged. As public pensions mature, we anticipate their continued growth as a share of household income.

High-income elderly also experienced increases in private transfers and pension income. Public-pension income increased both as a source and share of income for the high-income elderly.

Our results do not suggest a crowding-out effect of increases in pre-transfer income on private transfers but instead that increases in pre-transfer income have a positive impact on private transfers. That is, as the elderly receive more income from other sources, they also receive more money from their family members. Our analysis also suggests that private transfers increase as children's economic status does but that such transfers are not affected by changes in the amount of service an elderly parent provides for their grandchildren. These findings suggest that children provide for their elderly parents, not in response to the services provided to them but, instead, to the extent of their ability to provide for their elderly parents.

9. Conclusion

Economic wellbeing of the Korean elderly depends on public and private transfers. We examined the economic wellbeing of the elderly and their reliance on public and private transfers in several ways. First, we estimated poverty status based on equivalized household income. We then examined household income portfolios, disaggregating household incomes for respondents, spouses, and co-residing household members. We then broke down the elderly's family income by source: earnings, asset income, public pension income, welfare transfer income, private transfer income, and other sources of income.

We found that 26 percent of Korean elderly (i.e., individuals at age 65 or older) lived in poverty in 2008. Compared with other OECD countries, the poverty risk is substantially higher for Korean elderly. We found a significant decrease in the elderly poverty rate between 2006 and 2008, from 32 to 26 percent. But poverty reduction has not benefited individuals who were older, less educated, living alone, living in a rural area, or in poor health.

Household income portfolio analyses illuminate the economic dependence of the elderly through co-residence. Low-income elderly who co-reside receive more than 90 percent of their income from the children or the other household members with whom they co-reside. Most low-income elderly living alone or only with a spouse receive welfare or private transfer income. Welfare transfers account for no more than a third of income for low-income elderly, while private transfers accounted for about half. Nevertheless, welfare transfers grew as a proportion of income for low-income elderly between 2006 and 2008, while private transfers decreased. This suggests the BOASP has helped reduce elderly poverty.

We also observed a slight increase in public pension income, especially among high-income elderly. As the public-pension program matures, we anticipate its growth as a share of income for the elderly.

Our analyses of the relationship between elderly respondents' family income before private transfer and the private transfers they received suggest that crowding-out is not a real concern in increasing welfare transfers for the low-income elderly. Using the first difference model, we found a positive relationship between the changes in income for the elderly income and changes in private transfers received, specifically that a 1 percent increase in elderly family income (through the increase in public transfer), will increase the private transfer income by 0.07 percent. We also find that the changes in children's economic status influences the changes in private transfer income, suggesting that if public transfer program influences children's income (e.g., increased tax burden), then it will negatively influence the elderly's private transfer income. Further analyses are needed to estimate the aggregate effects with more detailed data on children's income.

Acknowledgements

This project is funded by P01 AG022481 International Comparisons of Well-Being, Health and Retirement.

References

Altonji, J. G. and Villanueva, E. (2003), The marginal propensity to spend on adult children. *Working Paper 9811*, Cambridge, MA: National Bureau of Economic Research.

Barro, R.J. (1974), "Are government bonds net wealth?" *Journal of Political Economy*, *82*(6):1095-1117.

Becker, G.S. (1974), "A theory of social interactions." *Journal of Political Economy*, *82*(6): 1063-1093.

Bernheim, B.D., Shleifer, A. and Summers, L.H. (1985), "The strategic bequest motive." *Journal of Political Economy*, *93*(6):1045-1076.

Burkhauser, R. and Smeeding, T. M. (1996), "Relative inequality and poverty in Germany and the U.S. using alternative equivalence scales." *Review of Income and Wealth*, *42*:381-400.

Feldstein, M. (1988), "The effects of fiscal policies when incomes are uncertain: A contradiction to Ricardian equivalence." *American Economic Review*, 78(1):14-23.

Förster, M.F. and Mira D'Ercole, M. (2005), "Income distribution and poverty in OECD countries in the second half of the 1990s", OECD Social, Employment and Migration Working Paper no 77.Fuchs, V.

(1969), “Comment on measuring the size of the low-income population.” In L. Stoltow (Ed.), *Six papers on the size distribution of wealth and income*. New York: National Bureau of Economic Research:198-202.

Greene, W.H. (2003), *Econometric Analysis 5th ed*, Pearson Education: Singapore.

Iceland, J. (2005), Measuring poverty: Theoretical and empirical considerations. *Measurement*, *3*:199-235.

Kim, H. (2007), *Intergenerational transfers and old-age income security in Korea*, Monograph, Seoul, Korea: Korea Development Institute.

Kim, I.K. and Choe, E.H. (1992), "Support exchange patterns of the elderly in the Republic of Korea." *Asia-Pacific Population Journal, 3*:89-104.

KNSO, Korea National Statistical Office (2009), *Korea Statistical Information Service*. Retrieved on March 13, 2009, from http://www.kosis.kr/.

Kwon, S. (2001), "Economic crisis and social policy reform in Korea." *International Journal of Social Welfare,* 10:97-106.

Lee, J. (2010), "Data set for pension and health: Data collection and sharing for policy design." *International Social Security Review*, 63(3-4):197-222.

Lee, J. and Lee, Y. (2009), “Old-age Income Security and Private Transfers in Korea,” *Journal of Population Aging and Social Policy*, 21(4):393-407.

Levande, D.I., Herrick, J.M. and Sung, K. (2000), "Eldercare in the United States and South Korea: Balancing family and community support." *Journal of Family Issues*, 21:632-651.

Liker, J.K., Augustyniak, S. and Duncan, G.J. (1985), "Panel data and models of change: a comparison of first difference and conventional two-wave models." *Social Science Research*, 14:80-101.

McGarry, K. (2000), Testing parental altruism: Implications of a dynamic model. *Working Paper*, Department of Economics, University of California, Los Angeles.

NPS, National Pension Service (2010), Retrieved on December 12, 2010, from http://www.nps.or.kr/jsppage/etc/data/data01_01.jsp

OECD, Organization for Economic Co-operation and Development (2009), Social, Employment and Migration Working Papers, OECD, Paris.

OECD, Organization for Economic Co-operation and Development (2010), OECD-StatExtracts, Retrieved on December 10, 2010, from http://stats.oecd.org/Index.aspx.

Park, N-H., Yeo, Y-J., Kim, K-Y., Lim, W-S., Song, Y-K. and Park, S-Y. (2003), "The Status of Poverty Policy and Development: Focus on Income Security", Korea Institute of Health and Social Affairs, Research Report 2003-11, Seoul, Korea.

Smeeding, T. (2005), "Poor People in Rich Nations: The United States in Comparative Perspective", Working Paper 419, Luxembourg Income Studies.

Sung, K. (1995), "Measures and dimensions of filial piety in Korea." *The Gerontologist*, 35:240-247.

Sung, K. (2000), "Respect for elders: Myths and realities in East Asia." *Journal of Aging and Identity*, 5:197-205.

WHO, World Health Organization (2009), World Health Organization InfoBase http://apps.who.int/infobase, retrieved on Apr 11, 2009.

Yang, L. and Tsiatis, A.A. (2001), Efficiency study of estimators for a treatment effect in a pretest-posttest trial. *The American Statistician*, 55:314-321.

Zaidi, A., Grech, A.G. and Fuchs, M. (2006), "Pension Policy in EU25 and its Possible Impact on Elderly Poverty", Working Paper Centre for Analysis of Social Exclusion, CASE/116.

Table 1 - Public transfers in OECD countries: percent of GDP spent on old-age support

	Year				
Country	**1990**	**1995**	**2000**	**2005**	**2007**
Australia	3.31	3.85	4.74	4.30	4.31
Austria	8.94	10.04	10.44	10.84	10.74
Belgium	6.53	7.01	6.91	7.15	7.08
Canada	3.83	4.24	3.86	3.78	3.80
Chile	7.36	6.08	6.59	5.16	4.49
Czech Republic	5.24	5.86	7.07	6.86	6.91
Denmark	7.35	8.36	7.06	7.26	7.28
Finland	7.03	8.53	7.52	8.50	8.40
France	9.21	10.60	10.50	10.86	11.06
Germany	9.40	7.98	8.78	9.23	8.65
Greece	9.33	9.16	10.10	10.99	10.02
Iceland	3.42	3.69	3.49	3.79	2.30
Ireland	3.24	2.88	2.58	2.88	3.11
Italy	8.27	9.35	11.18	11.56	11.74
Japan	4.09	5.31	6.93	8.62	8.79
Korea	**0.61**	**1.06**	**1.24**	**1.43**	**1.61**
Luxembourg	7.62	8.24	6.94	5.20	4.85
Mexico	0.39	0.57	0.59	0.93	1.15
Netherlands	6.34	5.54	5.27	5.54	5.26
New Zealand	7.15	5.53	4.84	4.14	4.18
Norway	7.10	7.06	6.53	6.34	6.22
Poland	4.06	7.57	8.51	9.28	8.72
Portugal	4.05	6.03	6.65	8.88	9.23
Spain	7.22	8.29	8.25	7.95	6.54
Sweden	8.55	9.83	9.08	9.44	8.98
Switzerland	5.48	6.56	6.48	6.65	6.30
United Kingdom	4.85	5.49	5.48	5.94	5.77
United States	5.17	5.37	5.08	5.25	5.30
OECD - Total	5.91	6.39	6.46	6.66	6.45

Source: OECD (2010).

Table 2 - Poverty rates for population and the elderly in selected countries, in recent years

	Poverty Rate	
	Population[1]	65 and over[2]
Austria	13	9
Belgium	15	17
Denmark	12	6
France	13	11
Germany	13	9
Greece	21	24
Italy	20	15
Korea	15	32
Mexico	14	28
Netherlands	10	2
Spain	20	29
Sweden	12	8
United Kingdom	19	14
United States	10	25

Note. Relative poverty rate based on 50% of equivalized median income

1. All statistics are for 2006. Sources: U.S. Census, Eurostat, Korea Statistical Office, and IndexMundi for Mexico (http://www.indexmundi.com/)

2. All statistics are for 2000 except for Korea (2005). Sources: Förster and Mira D'Ercole (2005) and OECD Social, Employment and Migration (2009). Smeeding (2005) for Belgium, Survey of the Living Conditions in 2007 for Spain and KLoSA for Korea, in 2006.

Table 3 - Sample Characteristics and Poverty Rates in Korea in 2008

		sample characteristics		poverty rate	
		unweighted N	weighted* %	OECD equivalence scale	0.5 single equivalence scale
ALL		4,020	100	26.16	26.99
Age	65 - 74	2,498	65.74	23.27	23.95
	75+	1,522	34.26	31.72	32.83
sex	men	1,679	40.59	19.53	23.60
	women	2,336	59.41	30.66	29.30
education	no school	1,350	32.96	36.10	32.64
	elementary school	1,429	35.85	25.54	26.70
	middle school	489	12.14	21.03	19.64
	high school	490	12.59	13.68	16.41
	some college or more	262	6.46	12.96	15.84
living arrangement	living alone	655	16.33	44.92	44.92
	living with spouse	1,801	44.91	18.75	31.87
	living with children	1,350	33.31	25.47	13.07
	living with others	214	5.44	35.35	18.17
urban/rural residence	urban	2,786	67.97	26.46	25.92
	rural	1,234	32.03	25.54	29.26
Self-reported health	very good	44	1.18	16.85	17.94
	good	662	16.87	15.21	17.51
	fair	1,550	38.08	22.72	22.00
	bad	1,401	34.77	31.57	32.63
	very bad	363	9.11	41.41	45.07

Notes: 2008 cross-sectional weights have been used.
Source: Own elaborations on KLoSA data.

Table 4 - Sample Characteristics in 2006 Depending on Re-interview Status in 2008

	ALL Rs interviewed in 2006		Re-interviewed in 2008		Dropped out in 2008			Newly entered in the sample in 2008		
	mean	se	mean	se	mean	se		mean	se	
age	73.03	0.12	72.77	0.12	74.46	0.33	***	63.52	0.02	***
gender										
% female	59.58	0.63	59.81	0.70	58.32	1.78		53.25	2.14	**
education										
% no school	37.38	0.99	37.54	1.05	36.50	2.14		16.60	1.67	***
% elementary school	34.73	0.88	35.13	0.95	32.53	2.01		38.62	2.32	
% middle school	10.73	0.51	10.55	0.55	11.73	1.41		17.99	1.72	***
% high school	11.34	0.56	11.06	0.58	12.87	1.46		18.09	1.77	***
% some college or more	5.81	0.41	5.71	0.45	6.38	0.99		8.70	1.27	**
living arrangement										
% living alone	15.21	0.67	15.43	0.72	14.01	1.57		7.99	1.21	***
% living with spouse only	41.86	1.07	42.91	1.17	36.02	2.39	*	51.42	2.41	**
% living with children	39.24	1.09	37.93	1.16	46.53	2.46	**	37.43	2.37	
% living with others	3.69	0.39	3.73	0.43	3.45	0.84		3.15	0.96	
urban/rural										
% rural	33.69	1.09	36.07	1.18	20.42	1.72	***	27.24	2.21	***
self-reported health										
% good or very good	19.29	0.76	19.12	0.84	20.23	1.69		31.73	2.24	***
% fair	31.28	0.87	32.01	0.96	27.21	1.90	*	35.02	2.24	
% poor	37.22	0.90	37.83	0.98	33.80	2.19		27.60	2.06	***
% very poor	12.21	0.68	11.03	0.67	18.76	1.72	***	5.65	1.01	***
poverty rates	31.42	1.03	30.85	1.11	34.62	2.24		25.57	2.23	*

Notes: *, **, *** represent a statistically significant difference at 5%, 1%, and .1% from individuals re-interviewed in 2008
All monetary values are in 2008 KW (Korean won). 2006 cross-sectional weights have been used.
Source: see table 3.

Table 5 - Poverty Rates in 2006 and 2008 by Socio-Demographic Characteristics

	Poverty rates				
	2006	2008	test stat	p-value	*
All	30.39%	26.52%	-3.12	0.002	**
age in 2008					
age 65 - 74	28.72%	23.36%	-3.70	0.000	***
age 75+	33.58%	32.54%	-0.59	0.558	
gender					
male	28.13%	23.13%	-3.32	0.001	**
female	31.91%	28.95%	-2.21	0.027	*
education					
no school	38.00%	35.91%	-1.05	0.295	
elementary school	28.89%	26.30%	-1.52	0.130	
middle school	26.24%	19.38%	-2.34	0.019	*
high school	24.66%	16.01%	-2.97	0.003	**
some college or more	20.14%	15.45%	-1.38	0.167	
living arrangement					
living alone	46.34%	44.50%	-0.62	0.536	
living with spouse	35.06%	31.37%	-1.92	0.055	
living with children	18.46%	12.68%	-3.62	0.000	***
living with others	38.88%	17.69%	-3.49	0.001	**
urban/rural					
urban	30.91%	25.44%	-3.85	0.000	***
rural	29.29%	28.83%	-0.19	0.851	
self-reported health					
good or very good	21.84%	17.51%	-2.00	0.046	*
fair	26.90%	21.47%	-2.87	0.004	**
poor	35.68%	32.07%	-1.69	0.091	*
very poor	41.85%	45.34%	0.96	0.339	

Notes: *, **, *** represent a statistically significant difference at 5%, 1%, and .1%
We used longitudinal weights, accounted for sampling design.
Source: see table 3.

Table 6 - Household Portfolio: Source of Income by Family Income and Living Arrangement

		All		Live alone		Live with spouse		Live with Children		Other	
Income sources		%	se	%	se	%	se	%	se	%	se
Low income		(N=1,278)		(N=263)		(N=242)		(N=676)		(N=97)	
Family Income	Earnings	5.07	0.87	5.22	1.64	12.15	3.05	2.76	0.91	2.93	1.78
	Assets	5.66	0.85	4.95	1.34	8.45	2.58	5.56	1.07	1.59	1.14
	Pensions	8.45	1.09	6.96	1.70	9.32	2.58	8.32	1.36	11.00	6.94
	Welfare transfers	57.29	2.11	67.19	3.28	55.17	5.23	55.24	2.66	50.73	6.89
	Private transfers	59.06	1.97	60.40	3.25	59.36	4.50	58.24	2.45	60.21	6.35
	Other	0.16	0.11	0.77	0.56	0.00	0.00	0.00	0.00	0.00	0.00
Other HH members' income		58.30	1.83	NA		NA		95.17	1.18	97.42	1.48
Middle income		(N=1,267)		(N=277)		(N=634)		(N=302)		(N=54)	
Family Income	Earnings	41.82	2.04	33.99	3.34	47.08	3.04	39.71	3.62	32.56	8.34
	Assets	21.93	1.74	17.70	2.45	23.33	2.74	24.20	3.00	14.53	5.64
	Pensions	34.36	1.94	26.83	2.93	39.23	2.92	32.89	3.43	24.52	7.71
	Welfare transfers	56.60	2.12	52.86	3.31	60.33	3.00	54.03	3.78	46.99	9.89
	Private transfers	83.48	1.49	89.04	2.10	83.60	2.24	78.37	2.97	82.71	6.34
	Other	1.69	0.51	1.12	0.67	2.66	0.96	0.54	0.39	0.00	0.00
Other HH members' income		24.07	1.66	NA		NA		85.44	2.52	75.82	7.03
High income		(N=1,271)		(N=93)		(N=904)		(N=311)		(N=47)	
Family Income	Earnings	62.51	1.94	47.89	5.96	61.65	2.51	67.21	3.53	73.60	8.44
	Assets	41.06	2.32	46.32	5.90	40.59	2.93	41.20	3.89	38.17	8.95
	Pensions	47.85	1.99	38.44	5.83	50.26	2.53	43.76	3.68	51.24	9.70
	Welfare transfers	46.20	2.35	40.20	5.45	48.05	2.96	44.68	3.62	35.40	8.90
	Private transfers	77.85	1.83	80.89	4.51	81.07	2.22	70.85	3.78	62.84	9.68
	Other	3.88	0.97	12.12	4.34	2.88	0.89	3.07	1.53	11.40	6.26
Other HH members' income		17.40	1.44	NA		NA		60.63	3.77	63.24	8.39

Notes: we used longitudinal weights, accounted for sampling design.
Source: see table 3.

Table 7 - Source of Income by Family Income: Comparison of 2006 and 2008

Income sources	2006 %	se	2008 %	se	t-test	p-value	*
Low income							
Family Income: Earnings	2.89	0.61	5.07	0.87	2.21	0.027	*
Family Income: Assets	8.71	1.09	5.66	0.85	-2.34	0.020	*
Family Income: Pensions	6.52	0.99	8.45	1.09	1.50	0.134	
Family Income: Welfare transfers	34.49	2.18	57.29	2.11	10.32	0.000	***
Family Income: Private transfers	54.69	2.00	59.06	1.97	1.68	0.093	
Family Income: Other	0.23	0.13	0.16	0.11	-0.42	0.677	
Other HH members' income	52.00	1.88	58.30	1.83	2.85	0.005	**
Middle income							
Family Income: Earnings	35.43	2.09	41.82	2.04	2.98	0.003	**
Family Income: Assets	20.49	1.73	21.93	1.74	0.64	0.522	
Family Income: Pensions	27.25	1.76	34.36	1.94	3.57	0.000	***
Family Income: Welfare transfers	44.04	2.26	56.60	2.12	5.56	0.000	***
Family Income: Private transfers	73.28	1.77	83.48	1.49	4.62	0.000	***
Family Income: Other	0.82	0.33	1.69	0.51	1.43	0.152	
Other HH members' income	21.38	1.78	24.07	1.66	1.42	0.156	
High income							
Family Income: Earnings	66.69	1.88	62.51	1.94	-2.57	0.010	*
Family Income: Assets	41.92	2.21	41.06	2.32	-0.31	0.759	
Family Income: Pensions	42.43	2.06	47.85	1.99	2.98	0.003	**
Family Income: Welfare transfers	31.06	2.17	46.20	2.35	6.97	0.000	***
Family Income: Private transfers	70.16	2.04	77.85	1.83	3.24	0.001	**
Family Income: Other	3.80	0.75	3.88	0.97	0.07	0.945	
Other HH members' income	13.33	1.32	17.40	1.44	2.26	0.024	*

*, **, *** represent statistical significance at 5%, 1%, and .1%
*used longitudinal weights, accounted for sampling design.
Source: see table 3.

Table 8 - Household Income Portfolio: Share of Income by Family Income and Living Arrangement

		All		Live alone		Live with spouse		Live with Children		Other	
Income sources		%	se	%	se	%	se	%	se	%	se
Low income											
Family Income	Earnings	3.45	0.76	4.21	1.26	11.81	3.62	0.81	0.37	0.88	0.74
	Assets	1.41	0.35	2.30	0.71	4.81	1.75	0.18	0.04	0.03	0.02
	Pensions	3.65	0.60	6.07	1.56	8.79	2.37	1.34	0.44	2.00	1.66
	Welfare transfers	12.15	1.17	33.07	3.06	27.28	4.29	1.33	0.56	1.12	0.34
	Private transfers	22.79	1.39	53.33	3.13	49.87	4.25	5.57	0.76	5.25	1.39
	Other	0.09	0.06	0.46	0.33	0.00	0.00	0.00	0.00	0.00	0.00
Other HH members' income		57.42	1.77	NA		NA		91.06	1.12	90.72	2.54
Total		*100.96*		*99.45*		*102.55*		*100.28*		*100.00*	
Middle income											
Family Income	Earnings	26.92	1.49	22.09	2.49	34.18	2.33	17.99	2.04	17.75	5.11
	Assets	7.13	0.74	7.75	1.38	8.18	1.18	5.17	1.13	2.97	1.57
	Pensions	11.11	0.84	9.37	1.23	14.60	1.40	6.47	1.15	5.68	2.58
	Welfare transfers	1.81	0.32	1.31	0.43	2.43	0.58	1.07	0.39	1.40	0.57
	Private transfers	36.96	1.44	58.56	2.73	39.70	2.13	14.52	1.58	22.54	4.87
	Other	0.58	0.22	0.56	0.35	0.90	0.41	0.03	0.03	0.00	0.00
Other HH members' income		15.49	1.20	NA		NA		54.75	2.41	49.68	8.04
Total		*100.00*		*99.64*		*100.00*		*100.00*		*100.00*	
High income											
Family Income	Earnings	44.94	1.68	37.22	5.16	46.74	2.15	42.51	2.89	44.52	6.59
	Assets	13.54	1.07	13.16	3.42	15.29	1.46	9.80	1.56	8.96	3.46
	Pensions	15.76	1.08	16.71	3.40	17.21	1.45	12.20	1.66	12.56	4.54
	Welfare transfers	2.47	0.46	2.79	1.59	2.36	0.57	2.97	1.02	0.27	0.19
	Private transfers	15.72	0.99	24.82	3.54	17.53	1.34	9.13	1.29	11.21	3.26
	Other	1.22	0.34	5.29	1.85	0.87	0.30	0.84	0.47	2.21	1.70
Other HH members' income		6.35	0.65	NA		NA		22.55	2.03	20.27	4.20

Total	*100.00*	*100.00*	*100.00*	*100.00*	*100.00*

*used longitudinal weights, accounted for sampling design

*Individuals with 0 total household income excluded from calculations (N=48)

* Not all totals account for exactly 100% of income due to weighting and excluded individuals

Source: see table 3.

Table 9 - Mean Income Share, by Family Income: Comparing 2006 and 2008 Income Portfolios

Income sources		2006 %	se	2008 %	se	t-stat	p-value	*
Low income								
Family Income	Earnings	1.80	0.45	3.45	0.76	2.07	0.039	*
	Assets	3.40	0.64	1.41	0.35	-2.70	0.007	**
	Pensions	3.42	0.77	3.65	0.60	0.25	0.800	
	Welfare transfers	7.82	0.84	12.15	1.17	3.34	0.001	**
	Private transfers	28.17	1.58	22.79	1.39	-3.06	0.002	**
	Other	0.11	0.08	0.09	0.06	-0.17	0.866	
Other HH members' income		55.29	1.94	57.42	1.77	1.00	0.319	
Total		*100.00*		*100.96*				
Middle income								
Family Income	Earnings	23.42	1.66	26.92	1.49	2.11	0.035	*
	Assets	6.98	0.77	7.13	0.74	0.17	0.868	
	Pensions	10.41	0.88	11.11	0.84	0.67	0.502	
	Welfare transfers	12.93	1.05	1.81	0.32	-10.65	0.000	***
	Private transfers	31.34	1.42	36.96	1.44	3.52	0.000	***
	Other	0.24	0.11	0.58	0.22	1.40	0.162	
Other HH members' income		14.68	1.43	15.49	1.20	0.61	0.545	
Total		*100.00*		*100.00*				
High income								
Family Income	Earnings	49.56	1.78	44.94	1.68	-3.05	0.002	**
	Assets	14.90	1.19	13.54	1.07	-1.12	0.262	
	Pensions	13.17	1.04	15.76	1.08	3.20	0.001	**
	Welfare transfers	3.21	0.52	2.47	0.46	-1.54	0.124	
	Private transfers	13.67	0.98	15.72	0.99	1.85	0.065	
	Other	0.71	0.21	1.22	0.34	1.22	0.336	
Other HH members' income		4.78	0.60	6.35	0.65	1.92	0.055	
Total		*100.00*		*100.00*				

*, **, *** represent statistical significance at 5%, 1%, and .1%

*used longitudinal weights, accounted for sampling design

*Individuals with 0 total household income excluded from calculations (N=48)

* Not all totals account for exactly 100% of income due to weighting and excluded individuals. .

Source: see table 3.

Table 10 - First Difference Model

	Model 1			Model 2		
	coef	t		coef	t	
log(2008 preprivate) - log(2006 preprivate)	0.069	2.29	*	0.065	2.17	*
log(2008 networth) - log(2006 networth)	0.065	0.99		0.057	0.86	
Living Arrangement Δ (Base: spouse-spouse)						
alone-alone	0.103	0.56		0.131	0.68	
alone-spouse	0.000	.		0.000	.	
alone-children	-0.567	-0.97		-0.500	-0.89	
alone-others	-1.029	-1.97	*	-0.939	-1.86	
spouse-alone	0.256	0.39		0.236	0.36	
spouse-children	-0.728	-2.00	*	-0.727	-2.00	*
spouse-other	-0.546	-0.75		-0.529	-0.73	
children-alone	0.702	1.40		0.710	1.41	
children-spouse	-0.254	-0.74		-0.258	-0.74	
children-children	-0.346	-2.10	*	-0.282	-1.63	
children-other	1.046	2.70	**	1.105	2.82	**
other-alone	1.355	2.64	**	1.330	2.41	*
other-spouse	0.171	0.17		0.244	0.24	
other-children	0.533	0.58		0.664	0.72	
other-other	0.020	0.03		0.057	0.09	
Rural Δ (Base: urban-urban)						
urban-rural	0.927	0.97		0.983	1.06	
rural-urban	-0.181	-0.52		-0.169	-0.46	
rural-rural	-0.311	-1.70		-0.355	-1.93	
Health Δ (Base: not poor - not poor)						
not poor - poor	-0.125	-0.71		-0.091	-0.51	
poor - not poor	-0.499	-2.80	**	-0.497	-2.74	**
poor - poor	-0.262	-1.82		-0.253	-1.60	
Children own house Δ (Base: own -own)						
don't own - don't own	0.363	2.16	*	0.287	1.63	
don't own - own	0.688	2.37	*	0.646	2.21	*
own - don't own	0.363	0.52		0.295	0.42	
Cared for grandchildren Δ (Base: no - no)						
no - yes	-0.237	-0.35		-0.263	-0.39	
yes - no	-0.094	-0.38		-0.155	-0.63	
yes - yes	-0.655	-1.38		-0.729	-1.54	
Gender (Base: male)						
female				-0.088	-0.86	
Education (Base: no education)						
elementary school				-0.190	-1.31	
middle school				-0.089	-0.41	
high school				-0.371	-1.63	
some colle or more				-0.329	-1.18	
Age in 2006				0.150	0.93	
(Age in 2006)^2				-0.001	-1.10	
R^2	0.036			0.041		

*, **, *** represent statistical significance at 5%, 1%, and .1%