THE ECONOMIC DOWNTURN AND THE FAMILY: MOVING IN, MOVING OUT AND FINANCIAL WELL-BEING*

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ABSTRACT
The normal life course suggests that households at older age reduce their size and complexity due to nest-leaving and widowhood. However, The Great Recession increased economic stressors, heightening coresidence. This study examines the effect of economic strain on changes in household composition and the effect of these changes on the economic well-being of older adults. We used two waves (2005 and 2010) of panel data from the National Social Life, Health and Aging Project (NSHAP) to examine the relationship between changes in household size and complexity and financial well-being among older adults. We found that 32% of respondents experienced either an increase or decrease in household complexity. Decreased complexity or size was associated with an increase in household income in 2010. Black and Hispanic households were more likely to undergo changes and experience decreased financial well-being. Decreased household complexity improves financial well-being, especially among Blacks and Hispanics.

Resource sharing is one of the most fundamental features of families. Members of immediate families tend to live together, sharing housing, meals, utilities, entertainment, income and expenses, although perhaps not all of these equally among all members (Burch 1987). Over the life course, families form as young adults leave home for school or jobs, find partners and have children of their own. Families grow with the addition of children, shrink when children grow and leave home, and shrink again with the death of members. At some stages in their lives, many people live independent of families, alone or with friends; among older adults nonfamily living tends to follow divorce or the death of a spouse or partner (Wilmoth and Longino, 2006). People may add members to their household in response to their own needs or those of the others. The Great Recession that began in 2006 increased the share of families with members in need.

In approximately 2006 the rapid rise in housing values came to an end and mortgage delinquencies, defaults and foreclosures rose dramatically. The United States entered a recession in December 2007, the NBER later concluded (Temin, 2010), and called it "The Great Recession". Unemployment rose to more than 10%, with many job losers, especially those ages 50 and older, finding re-employment extremely difficult. The labor market for new entrants yielded relatively few jobs. These economic events created, for many families, exactly the types of shocks against which their members expected insurance. The number of persons and families sharing households increased, as families drew on the insurance implicit in coresidence across generations; the Pew Research Center estimates that about one adult ages 25-34 in five now lives in a multi-generational household, as does the same share of those 65 and older (Pew Research Center 2010).

However, recent studies indicate that parent-child coresidence or extended household as a resource sharing strategy is more influenced by the children's needs than their parent's health or economic needs (Aquilino 1990; Ward, Logan, and Spitze 1992; Choi 2003). An option to live at home with their parents is a valuable form of insurance for young adults (Kaplan 2010), considering the recent demographic trend in the rise of the median age of first marriage and recent high unemployment among young adults. Aquilino (1990), for instance, found that parents are more likely to be the homeowner of parent-children coresident household and marital status of children is a strong predictor of parent-children coresidence. In addition, recent statistics show that 37% of 18-to-29-years-olds were either unemployed or out of the labor force (Pew Research Center 2010), suggesting that children's economic hardship may be a motivation for changes in household composition. Changes in the living arrangements of older adults in response to economic needs of extended family members may damage the economic well-being of the older adults to the extent that the new additions to the household bring fewer resources than they require and need to rely on those of the older generation.

This paper examines changes in the composition of the households of older adults from the period just before the Great Recession to five years later, when economic conditions remained very difficult. We describe in detail the changes that took place, and the consequences for households, focusing especially on changes in household economic resources relative to needs. And we compare the experience of older white adults to those of older black and Hispanic adults.

Households as a Site of Production

The people with whom one shares a household, which together constitute one's living arrangements, define the lives of those involved in important ways. Lindau et al (2003) argue that physical and emotional health is produced most often and most efficiently in intimate dyads,

usually consisting of spouses, within a social and cultural context. So those living in other types of families or independent of families may be disadvantaged, with fewer resources with which to maintain a healthy mind and body. Perhaps as a result, older adults living alone face a heightened risk of being lonely. Although having another person in the house seems like an obvious way to avoid feeling lonely, other people do not tend to fill the same needs as a spouse; older single women who live with their children and single men who live with others also are more likely to be lonely than those living with their husband or wife. (Greenfield and Russell, 2010).

People who live together bring various resources to the household, including time, money, labor, attention and skills. They also make demands on the others in the household for the time, attention and resources of others. Adults of working ages tend to be net producers, bringing more resources than they consume. Older adults and children often have greater needs than they can supply from their own current labor. So the balance between the resources available in a household and the demands made by members depends on the characteristics of household members. Perhaps as a result, adult living with only their spouse and own children tend to show the best physical and emotional health, whereas those living with other relatives or nonrelatives or by themselves are worse off on these dimensions (Waite and Hughes, 1999; Hughes and Waite, 2002). And clearly the financial well-being of people is better, all else equal, if they live with well-off others who make few demands than if they live with those who have little money but many needs (Citro and Michael, 1995).

Families provide resources to their members directly, but they also provide insurance against negative shocks to the group as a whole or to the individuals in it. These shocks include poor health, loss of a job, divorce, or unexpected periods of dependency (Kotlikoff and Spivak, 1981; Rosenzweig and Wolpin, 1993; 1994; Kaplan, 2010). Coresidence is one important

mechanism through which families can transfer resources to young members, old members, and others in need (Rosenzweig and Wolpin, 1993; Hughes, Luo, LaPierre and Waite, 2007; Kaplan 2010). Some scholars have argued that black and Hispanic families are more likely than whites to use coresidence to alleviate the effects of poverty, especially across the generations, with strong norms supporting extended family households (Angel and Tienda, 1982; Angel, Angel and Himes, 1992).

Although sharing a household in response to economic need can benefit those involved, it comes with costs. The doubling up of living arrangements with other distal relatives/nonrelatives should be simultaneously considered in conjunction with their contributions through income, sharing of domestic work or other nonmonetary contribution, such as care for household members. In particular, if co-residence with *other distal* members is mainly driven by the economic hardship of those others, it may increase the economic burden on older adults.

We argue that the efficiency with which households incorporate additional members depends on the relationships between them. Members of the nuclear family share close and long-term bonds, with expectations for support and exchange generally quite clear. Expectations for exchanges with more distal relatives are both lower and vaguer, with friends and other non-relatives expected to give and get less and with more variation in expectations (Rossi and Rossi, 1990). So households can most easily take in, for example, young adult children having a hard time finding a job, and least easily take in a family friend, a second cousin, a great nephew or an acquaintance. The more distant the relationship the more difficulty incorporating new members into the household division of labor, agreeing on sharing of expenses, and sharing common space or household resources such as food or the washing machine. So the more distant the connection with new members, the more social and emotional burden on the older adults involved, we argue.

Households can change along two dimensions: size; and, complexity. A household might get bigger because an additional adult child returns home. This increases size but not complexity, as an adult child has clear role relationship with his or her parents. A household might get more complex if a grandchild or a great nephew moves in. The second change is more disruptive to family functioning than the first, on average, because the relationships are more distant so that those who moved in may consume already limited resources of older adults with negligible contribution of either monetary and nonmonetary (e.g., support and care) resources. This is especially true if the new members are dependent children.

The normal life course at older ages would suggest that many more households lose members and complexity than gain them, since in ordinary times adult children tend to move out and spouses become more likely to die. However, the Great Recession increased the economic stressors that heighten risk of coresidence. The two trends vie for dominance, affecting families differentially.

Racial Differences in Households

Previous researches suggest that black and Hispanic adults are substantially more likely than whites to live in complex households and these differentials are quite consistent during the past few decades. Among older adults, blacks are about as likely as whites to live alone, but both blacks and Hispanics are more likely to form coresidential relationships with grandchildren and nonrelatives (U. S. Census 2000 Summary File1). In 1989 (March 1990 Current Population Survey), 62.6% of Black elderly (60 and over) either lived alone (31.2%) or lived with others (32.1%) compared to 32.0% and 12.7% for white counterparts respectively (Angel and Hogan 1992). By 2000 there was a significant increase in the proportion of elderly Blacks living with a

spouse (49.4%) matched by a precipitous decline in the proportion living with others (20.4%) but relatively stability in living alone (30.2%) (Bicket and Mitra 2009).

The two major sources of household dynamics are the normal life course factors such as nest-leaving and widowhood that tend to decrease size and complexity of older households over time, and the economic factors that over the past few years have exerted pressure toward household consolidation. Research on racial and ethnic differences, however, considers another important determinant of household extension: cultural preferences for multigenerational living arrangements (Angel and Tienda 1982; Hofferth 1984; Hogan, Hao, and Parish 1990; Aquilino 1990; Angel, Angel and Himes 1992; Choi 1999; Burr and Mutchler 1999; Kamo 2000; Peek, Koropeckyj-Cox, Zsembik, and Coward 2004; Gonzales 2007). Although it is not easy to separate economic from cultural factors, previous findings suggest that racial and ethnic groups differ in their preferences for adapting to practical concerns such as health problems and economic insufficiency with family extension. For instance, Hogan, Hao, and Parish (1990) found that white mothers tend help their daughters through financial support while black mothers more often use informal support through coresidence and child care. Gonzales (2007) found that even after controlling for socioeconomic factors (marital status, education, income), cultural values are strongly associated with household extension; moreover, income is a positive predictor of coresidence for Hispanic households and thus may serve to enable families to act on cultural preferences for living in a multigenerational household.

Although cultural preferences and need to deal with economic constraints affect many minority older adults, there are sizeable differences in living arrangements between blacks, Hispanics and Asians (Choi 1999; Kamo 2000; Peek et. al 2004). Peek and colleagues (2004) found that the source of household complexity and dynamics among black households is

predominantly the movement of grandchildren while that of white elderly tends to be the movement of adult children. Choi (1999) directly compared black elderly couples and Hispanic elderly couples and found that Hispanic elderly couples were more likely to head a household containing relatives while black elderly couples were more likely than Hispanic elderly couples to head households containing grandchildren only (Hughes et al., 2007). Kamo (2000) also found that black elderly are more likely than white elderly to take in children and grandchildren; Hispanics are more likely to coreside with siblings and other relatives; Asian elderly are more likely to move into their children's households. This suggests that the processes underlying changes in household composition differ for these racial and ethnic groups.

This paper will examine the effect of the recent recession on changes of household composition and the effects of those changes on the economic well-being of the households of older adults. We use data from the National Social Life, Health and Aging Project (NSHAP). Wave 1 was fielded between the summer of 2005 and the summer of 2006, just prior to the high point of the U.S. housing bubble. Wave 2 was fielded between the summer of 2010 and the summer of 2011, after the Great Recession had been underway for more than three years, with unemployment still high and housing values continuing to fall. Specifically, the study will ask:

1. What changes in the household composition of older adults took place between 2005-06 (the Wave 1) and 2010-11 (the Wave 2)?
2. Do families that increase in size see improvements in their economic well-being relative to household needs?
3. Do families that increase in complexity see similar improvements?

4. Are black and Hispanic older adults more likely than whites to increase household size and/or complexity? Are the economic consequences similar to those faced by whites?

DATA AND METHODS

Data

We use data from the National Social Life, Health, and Aging Project (NSHAP), a nationally representative population-based study of community-residing older adults. The NSHAP sample was selected from a multi-stage area probability design screened by the Institute for Social Research (ISR) for the Health and Retirement Study (HRS). The HRS design oversampled by race/ethnicity; NSHAP retained this design and also oversampled by age and gender. The first wave (Wave 1) was fielded from summer 2005 to spring 2006 and interviewed 3,005 individuals, ages 57-85, achieving a final weighted response rate of 75.5 percent. The second wave (Wave 2) was fielded from summer 2010 to spring 2011 and interviewed 3,377 respondents and their partners.

Most of the data for the NSHAP study were collected during a two-hour in-home interview. Following the in-person interview, respondents were given a paper-and-pencil questionnaire to return by mail. The return rate for the leave-behind questionnaire was 84 percent for Wave 1.

Living Arrangements

We construct measures of living arrangements from questions about the respondent's social networks, which included household membership and detailed information on relationship to the respondent.[1] We follow Waite and Hughes (1999) and Hughes and Waite (2002) to

[1] These include: Spouse; Ex-spouse; Romantic/ Sexual partner; Parent; Parent in-law; Child; Step-child; Brothers or sister; Other relative of yours; Other in-law; Friend; Neighbor; Co-worker or boss; Minister, priest, or other clergy; Psychiatrist, psychologist, counselor, or

categorizing living arrangements as living with: (a) spouse or partner only; (b) spouse or partner and own children; (c) spouse or partner and others; (d) spouse or partner, own children, and others; (e) single alone; (f) single with own children; (g) single with others; (h) single with own children and others. The category "single" includes those who are never married, widowed or divorced. Others include distal relatives, including siblings, parents, grandchildren, and non-relatives such as friends. Table 2 shows the distribution of respondents across these living arrangements.

Methods

To estimate changes in households we examine the number of persons in each household, and the detailed relationship of household members to the respondent for the households in which the older adult lived in 2005-06 and 2010-11. We assessed *change* on two dimensions: (1) household size; and, (2) household complexity. Households increase in size if there are more people living in the household at the second interview than at the first and decrease in size if there are fewer. Complexity reflects the relationships between the residents. We follow Rossi and Rossi (1990) in assessing the closeness of relationships between kin of various degrees of relatedness, with relationships with non-relatives having the fewest social recognized expectations for exchange. Households with more *types* of relationships are more complex than those with fewer, so households consisting of one or two parents and own children do not increase complexity by adding another child, but do add complexity if that child brings a grandchild with her. Households in which a person loses a spouse or partner and then lives alone are less complex than they were, as are households from which the adult children move out,

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therapist; Caseworker/ Social worker; Housekeeper/ Home health care provider/ Other (*Specify*).

leaving only the couple. By separating size from more relational and qualitative aspects of household structure, we can compare the effects of these changes on the economic well-being of older adults. Specifically, we defined changes in household complexity as following;

a. for "spouse only" living arrangements changes to "spouse, children," "spouse, others," and "spouse, children, others" are defined as an increase in complexity.

b. for "single alone" living arrangements changes to "single, children," "single, others," and "single, children, others," and any type of living arrangements with a spouse are defined as an increase in complexity.

c. for "spouse only" living arrangement who moved to "single, children," "single, others," and "single, children, others," are defined as an increase in complexity.

d. for "spouse only" living arrangement who moved to single living alone, we define this as a decrease in complexity.

We use descriptive statistics to report the changes in number and percentage and conduct significant tests to examine whether the changes are notable.

For the analysis of the effect of change, especially doubling up of households, we first present descriptive statistics of living arrangements and economic well-being for 2005-06 and 2010-2011. We use the income-to-needs ratio, which adjusts the income available to the household by the number of people dependent on that income and their ages, at the two interviews to assess changes in economic well-being. NSHAP household income is assessed through a global question on household income followed by an unfolding bracket methodology[2].

[2] The unfolding bracket questions were assessed through a method that is similar to HRS: for example, "Would you say the income of your household in [current year minus1] was more than $50,000 or less than $50,000?"

Missing values from income and assets are imputed using the interval-censoring method of multiple imputations via the Stata 11.2 ice command (Royston 2007). Income is transformed on the log scale so that income and assets are imputed under a log-normal distribution. Ten data sets were imputed, using information from the bracketing questions (interval-censored variable), age, gender, race and ethnicity, and education level. We followed the definitions from the Current Population Survey (CPS)[3] for the calculation of household income-to-needs ratio and income-poverty. Our descriptive analysis will compare changes in household composition, income relative to needs, and poverty status. This comparison will enable us to determine the extent to which doubling up of families, which often leads to an increase complexity of households, may be a strategy to counter economic hardship as our measure of economic well-being is a proxy for financial resources available in a doubled up household in which the members are sharing these resources.

We then conduct multivariate regression to examine the socio-demographic factors associated with living in a doubled up household and to assess whether some groups are more vulnerable to changes between 2005-06 and 2010-11, where the start of the recession occurred between these years. We add age, gender, race/ ethnicity, education level, and self-rated physical health to examine whether some socio-demographic groups are more vulnerable to changes in household size and composition during the recent economic down turn.

RESULTS

When interpreting changes in living arrangements, we consider changes in both household size and complexity. For instance, some older adult may have not changed their types

[3] For the definition of income-to-needs ratio see http://www.census.gov/population/www/cps/cpsdef.html

of living arrangement (e.g. married couple living with children) but they may have increased their household size, for example if adult children moved back home. On the other hand, some older adults maintained the same household size but increased or decreased complexity, for example if a newly widowed person moved in with a child. Table 2 and Appendix 2capture these differences. Before we examine these differences, we first present general characteristics of US older population. Table 1 presents socio-demographic characteristics of respondent, their household characteristics and economic well-being (measured by income-below-needs).

[TABLE 1 ABOUT HERE]

1. General Characteristics of Households, Composition, and the Economic

Table 1 presents the socio-demographic and household characteristics of respondents in 2005-06 and 2010-11. Table 1 shows that the population of older adults did not experience large changes in household size or complexity (Table 2 and Appendix 2) between these two waves, however, we see differences by race and ethnicity. Overall, average household size is relatively constant. White older adults' household contains the fewest members, averaging 2.01 people in 2005-06 and 1.94 people in 2010-11. Hispanics have the largest households with 2.52 person in 2005-06 and 2.59 in 2010-11 on average. For Hispanics, larger households may be due to the persistence of higher fertility and to norms which favor large families (Angel and Tienda 1982; Choi 2003), and/or to economic challenges or immigrant status (2010 PEW Research Center).

Between 2005-06 and 2010-11 inflation-adjusted median household income decreased from $47,654 to $43,220, a 9.3% reduction; median income-relative-needs also declined.[4] However, the Great Recession may have affected black and Hispanic older adults differently

[4] $1 in 2005 has the same buying power as $1.12 in 2010 (http://data.bls.gov/cgi-bin/cpicalc.pl).

compared to whites. White older adults in NSHAP showed a 7.4% reduction in median household income while Blacks saw an increase of 2.0 %. Hispanic older adults were most negatively affected by the Great Recession, showing 23.1% reduction in their household income. In addition, the proportion of households below poverty among Hispanic older adults increased substantially (from 22% in 2005-06 to 27.9% in 2010-11).

2. Changes in Household Composition

Have there been changes in household composition between 2005-06 and 2010-2011? Some types of living arrangements are more vulnerable to changes that are more affected by life course, social, and economic factors. Loss of a spouse is one of major life course event that shifts household composition. Widowed older adults may combine households with an adult child, move in with friends or relatives or live alone. Another factor is economic hardship faced by older adult or other family members. Table 2 presents changes of living arrangements between 2005-06 and 2010-11.[5]

[TABLE 2 ABOUT HERE]

Table 2 shows whether those in each living arrangement in 2005-06 changed by 2010/11and, if so, whether they have moved toward either increasing or decreasing complexity by adding or reducing other distal relatives (e.g. siblings, in-laws, grandchildren) or friends. Keeping in mind that our respondents are representative of older adults in the U.S. as a whole,

[5] It should be noted that changes in household size with no change in composition is not considered as increase or decrease in complexity in Table 2. Changes in household size by living arrangements are available by authors.

who have already established their career and raised their children, thus we expected relatively little change in living arrangements. However, older adults in complex living arrangements, perhaps with their children or other distal relatives or friends in their household, may face more instability in household composition as their children and others move out or move in. Overall 68.0% of older adults stayed in the same types of living arrangements, 18.6% of them decreased and 13.4% of them increased household complexity. In general, each type of living arrangements either remained unchanged or moved in the direction of decreasing complexity. Married older couples and single older adults living alone are the two groups with the highest stability. 78.6% of single older adult living alone and 78.2% married couple in 2005/06 neither increased nor decreased their household complexity. On the other hand, household that contained distal relatives or friends were more apt to change, especially toward decreasing complexity. 68.6% of 'single, others' and 69 % of 'spouse, others' shifted toward reducing complexity of household composition (more detailed changes by race and ethnicity are available by authors). This is consistent with our argument that other distal relative and friends are less likely to share family history, knowledge and empathy that facilitate household function (e.g. sharing domestic task) and are more likely to cause strain in the relationships between household members increasing chances the household splits up (Kim 2011). Quite a large proportion of older adults in some types of living arrangements increased their household complexity. This was salient among 'single, live alone (21.5%),' 'single, child(ren) (19.3%),' 'spouse, children (11.6%),' and 'spouse, others (16.1%)' groups. Single older adults who lived alone may move in with their sibling and friends to share expenses; single older adults who already lived with their children increased household complexity by adding extra person(s), probably grandchildren (these changes on the economic well-being will be discussed later).

3. Changes in the Economic Well-being

How does household composition relate to the economic well-being of older adults? More importantly, how do *changes* in household composition relate to *changes* in the economic well-being? It should be noted that *change* should indicate both changes in quantity (i.e. size) and quality (i.e. complexity, composition).

[TABLE 3 ABOUT HERE]

As we have seen, some types of living arrangements are more likely than others to show dramatic changes between 2005-06 and 2010-11. How are these related to changes in the economic well-being of the household, and members in it? Table 3 shows the association of changes in complexity with changes in average income relative to needs. Table 3 shows that the two-thirds of older adults who saw no change in household complexity showed a decline in average income-needs (-0.16); the 18.6% of people whose households decreased in complexity saw their average income-to-needs ratio increase by 0.24. Those whose household increased in complexity, who constituted 13.4% of older adults, showed declines of 0.97 in their income relative to their needs. That is, income relative to needs fell both for older adults whose households remained the same types of household *and* for those whose households increased in complexity, with large declines in economic well-being when household relationships get complicated. Only people whose household declined in complexity experienced increases in economic well-being as measured by the income-to-needs ratio. A notable point here is that increasing complexity of relationships among household members greatly reduces the average

income-relative-needs-ratio, indicating that the economic well-being of older adults declined. Changes in type of living arrangement, such as moving into more complex households, significantly deceased income relative to needs of whites and blacks, compared to those who had no such changes (for whites, complexity reduced income relative to needs by 1.01; for blacks, complexity reduced by 0.77) .

[TABLE 4 ABOUT HERE]

The results from Table 4 show that changes in household complexity have significant effects on log household income in 2010-11. The reference groups are older adults who did not experience the changes in household complexity between 2005-06 and 2010-11, except those who continued to live with a spouse only in both survey years.[6] Compared to those who did not change household composition (excluding those who continue to live with a spouse), older adults either moved into or moved out of complex households between 2005-06 and 2010-11 were

[6] Previous studies continuously found that those who continue to live with a spouse only enjoy the highest financial well-being (Waite and Gallagher 2000). As such, taking 'No change in household composition/size' that contains continuously married people as the reference group is less effective way to show the effect of increased or decreased complexity/size of household on financial well-being; both groups started with less financial resources, compared to those living with a spouse only, therefore their changes in household composition are negatively associated with finance compared to continuously living with a spouse.
Thus, we controlled two more groups in addition to those increased and decreased complexity/ size; one group is those continue to live with a spouse and those who live with a spouse but moved into complex households; the other group is those who became single and either live alone and moved to complex household. In this way the reference group is those who continue to live in the same household type except for those who continue to live with a spouse only.
In supplementary analysis we took those who continue to live with a spouse in both survey waves as the reference group and controlled following five groups; those who had a spouse in Wave 1 but became single living alone; those who experienced no change in household composition between both years except continue to be married; groups that had a spouse in wave 1 but moved to more complex household (either married or single); and groups either increased or decreased complexity. In this way, we tried to capture the differences between the normal life course factors (widowed) and economic factors (had a spouse in wave 1 but move into complex household). However, taking the continuously married as the reference group was still less effective in showing dynamic changes of financial resources by changes in household composition of other types of change. It is because those who continued to married showed the best financial well-being therefore even if other types of household made change in their household composition their financial status have negative association compared to who continue to married group.

more likely to decrease or increase their household income in 2010-11, though they are not statistically significant (Model 1). Older adult who lived with a spouse only in 2005-06 but became a single, either living alone or moved into complex household, had 10 % (=(1-exp(-.11))*100) lower household income in 2010-11 than those who did not experience changes in any type of household. Consistent with previous research on the positive effect of marriage on financial well-being (Waite and Gallagher 2000), older adult who continue to live with a spouse had 25.8% (=(exp(.23)-1)*100)[7] more household income in 2010-11 than those who continues to live in the same type of household other than spouse only household.

4. Racial Differences

What are the socio-demographic characteristics of those who face more changes in living arrangements? Supplementary analysis (Appendix 1. Multinomial Logistic Regression of Household Size and Complexity on Demographics) show that living arrangements of black older adults seem more unstable than those of whites or Hispanics, with blacks more likely to increase and decrease both size and complexity. On the other hand, Hispanic older adults are more likely than whites to increase household size and complexity.

If there are racial differences in living arrangements (Table 1 and appendix 2) and their changes (Appendix 1), are the racial differences in change in living arrangements related to economic well-being? Table 3 presents changes in complexity of living arrangements separately for white, black and Hispanic older adults and changes in income relative to needs. White older adult are the least likely to change their living arrangements, compared to black and Hispanic older adults, and more likely decrease the complexity of the households than increase. Black

[7] Those who continue to live with a spouse only showed significantly higher (29.5%) income; those who continue to live with a spouse but moved into complex household showed 5.7% higher but are not statistically different.

older adults are the most likely to show households dynamics; almost half (45.3% for complexity; 48.8% for size (size analysis available by authors)) of black older adults either decreased or increased their complexity and size of households. Interestingly, black older adults who maintained stability of household structure increased their income relative to their needs.

Hispanic older adults, like blacks, show a great deal of change in living arrangements over the five-year period we observe. A large proportion of Hispanic older adults either increases or decreases their household complexity (42.3%) or size (43.0%). For Hispanic older adults, however, decrease in complexity of household does not seem to be associated with improvement in their economic well-being. Twenty percent of Hispanics have decreased complexity of household but their income relative to needs decreased as well (-0.45). The recent PEW report points to a very substantial vulnerability of Hispanics generally declines in economic well-being as a result of macro-economic forces, due to the sizeable share of Hispanics who are immigrants, often undocumented, their concentration in industries and occupations badly affected by the recession, and their disproportionate participation in the housing bubble (PEW Research Center 2011).

Model 2 in Table 4 estimated interactions among race and changes in household types. Model 2 showed that decrease in complexity correlated with 16.2% more income in 2010-11. However, the advantage of moving into less complex household is much smaller for black and Hispanic older adults than for white older adults. Blacks who decreased complexity in household experienced 23.7% (=[1-exp(-0.27)]*100) less household income over older adults who experienced no changes in household type. Hispanics who decreased experienced severely less income in 2010-11 (37.5% (=[1-exp(-0.47)]*100)).

SUMMARY AND DISCUSSION

Households are a site of resource production and distribution (Waite and Gallagher 2000). Yet, the efficiency with which households and families produce economic and health outcomes depends on the nature of relationship among members. Resource exchanges, such as money and supports, among members of the nuclear family tend to be easy and smooth, based on long-term relationships and clearly defined role-expectations; transaction with distal relatives and friends, however, tend to be less efficient due to higher instability in relationships and less clear expectations for returns. Consistent with previous research, we found that those living with spouse only and with their own children enjoy the best economic well-being (Analysis available by authors).

Households, however, face dynamics depending on two major driving forces: the older adults' position in the life course and the economic fortunes of their members. The normal life course would suggest that most household at older age reduce their size and complexity as adult children tend to move out and spouses become more likely to die. Our results show that 32 % of older adults either increased or decreased complexity of households between 2005 and 2010 (Table 2). Among those who changed (731 out of 2,210), about 42.7 % (312 out of 731) of those who lived with their spouse (and child and/or others) became single, either living alone or living with their own children and/or others, reflecting the influence of normal life course factors such as nest-leaving and widowhood. On the other hand, the economic factors over the past few years have exerted pressure toward household consolidation. It seems, however, that the recent recession is more likely to influence economic well-being of older adults through changes in living arrangements by movements of children, grandchildren, other distal relatives, and friends. As many recent reports indicate (PEW 2010, Aquillino 1990, Kaplan 2010), high unemployment

among younger generation seems to propel intergenerational co-residency. This means that older adults are sharing their limited resources with other members who moved in but brought little income to contribute. Thus, changes in living arrangement of older adults tended to induce changes in their economic well-being. We found that decrease in size and complexity in living arrangement is associated with an increase in economic well-being; while an increase in size or complexity of the household is strongly associated with declines (Table 3 and Table 4). Moreover, increase and decrease in size and complexity have crucial effect on in household income in 2010-11 even after we control socio-demographic characteristics and health status (Table 4).

Consistent with previous studies on racial difference in living arrangements, we found that black and Hispanic older adults are more likely to live either alone or in a complex household. As mentioned above, older adults living with other distal relatives face quite different impact on their overall well-being than those living with nuclear family members; living with other distal relatives confronts more uncertainty in their relations and more instability of household composition. This is clearly shown among black and Hispanic older adults' households. Compared to white older adults, Blacks are significantly more likely to change their size and complexity of households while Hispanics are more likely to increase complexity only (Appendix 1). Supplementary analysis (available by authors) shows that the proportion of living with other relatives, such as siblings, extended kin, in-laws, and friends, among Hispanic older adults has increased between the two survey years (17.5 % in 2005-06 to 22% in 2010-11).[8] The effects of changes, however, are quite different for these two groups. Hispanics are more likely to have experienced a larger decrease in their income relative to needs and an larger increase in the proportion living in poverty level (Table 1).

[8] The proportion of living with others among White older adults has slightly increased (7.2% to 8.7%) and blacks remained the same around 21%.

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Table 1. Sociodemographics Characterisitics and Changes in Household characterisitics[a]

	Total		White		Black		Hispanic, non-black	
	2005[b]	2010	2005[b]	2010	2005[b]	2010	2005[b]	2010
Age		72.1		72.3		71.6		70.9
		(7.3)		(6.9)		(8.7)		(8.2)
Female (%)		52.2		52.2		56.5		50.0
Attend College (%)		54.4		57.7		40.2		34.0
		(0.5)		(0.46)		(0.64)		(0.57)
Household Size (Average)	2.07	2.01	2.01	1.94	2.22	2.16	2.52	2.59
Household Income (Median)	$42,681	$43,220	$46,018	$47,586	$26,930	$30,662	$26,583	$23,238
Household Income in 2010 dollars (Median)	$47,654	$43,220	$51,380	$47,586	$30,068	$30,662	$30,221	$23,238
Income-relative-needs (Median)	3.36	3.31	3.63	3.6	2.14	2.11	1.87	1.46
Proportion below poverty (%)	8.9	8.8	5.9	5.9	23.5	18.8	22.0	27.9
Observations	2,210	2,210	1,599	1,599	377	377	234	234

Standard Error in parentheses

[a] Survey-adjusted and weighted to account for the probability of selection, with post-stratification adjustments for non-response.

[b] Analytice sample includes only those respondents available in Wave 2 (n = 2,210).

Table 2. Changes in Complexity of Living Arrangements between 2005-06 and 2010-11 (N = 2,210)

	No Change	Decreased	Increased	Total
Single, live alone	78.6	0	21.5	100
(unweighted N)	435	0	127	562
Single, child(ren)	46.2	34.6	19.3	100
(unweighted N)	42	34	14	90
Single, others	22.6	68.6	8.8	100
(unweighted N)	22	45	7	74
Single, child(ren), others	50.1	41.7	8.2	100
(unweighted N)	23	21	2	46
Spouse, only	78.2	10.8	11.1	100
(unweighted N)	867	122	128	1,117
Spouse, child(ren)	31.4	57	11.6	100
(unweighted N)	65	109	31	205
Spouse, others	14.9	69	16.1	100
(unweighted N)	12	38	10	60
Spouse, child(ren), others	25.9	74.1	0	100
(unweighted N)	13	43	0	56
Total	68.1	18.6	13.4	100
	1,479	412	319	2,210

Sep. 2. 2011

Table 3. Changes in Complexity of Living Arrangements and Average Changes in Income-relative-needs by Race (N = 2,210[a])

	Total			White			Black			Hispanic		
Complexity	%	n	Δ	%[b]	n	Δ	%[b]	n	Δ	%[b]	n	Δ
No changes	68.1	1,479	-0.16	70.5	1,138	-0.23	54.7	206	0.48[c]	57.7	135	0.02
Decreased	18.6	412	0.24	17.8	275	0.34	24.9	93	0.04	19.5	44	-0.47
Increased	13.4	319	-0.97[d]	11.7	186	-1.01[d]	20.4	78	-0.77[d]	22.8	55	-0.99[d]
Total	100	2,210	-0.19	100	1,599	-0.22	100	377	0.12	100	234	-0.30

[a] Asians and other race and ethnicity group (n=51) are excluded

Sep. 05. 2011

[b] Survey-adjusted and weighted including other ethnic group to account for the probability of selection, with post-stratification adjustments for non-response.

[c] Significantly differ from White

[d] Significantly differ from "NO Change"

Table 4. Multivariate Regression on Log-income in 2010-11

	Complexity Model		Size Model	
	Model 1	Model 2	Model 1	Model 2
Reference: NO changes in Living arrangement [b]				
Decreased (Complexity/ Size)	0.07	0.15**	0.07	0.14*
	(0.05)	(0.05)	(0.05)	(0.06)
Increased (Complexity/ Size)	-0.02	0.02	-0.03	0.01
	(0.03)	(0.05)	(0.03)	(0.04)
Married → Single[c]	-0.11†	-0.13*	-0.11	-0.13
	(0.05)	(0.07)	(0.06)	(0.07)
Married → Married[d]	0.23**	0.25**	0.23**	0.25**
	(0.03)	(0.04)	(0.03)	(0.04)
Black	-0.08	0.06	-0.08	0.08
	(0.05)	(0.10)	(0.05)	(0.10)
Hispanic, non-black	-0.28**	-0.14	-0.28**	-0.15
	(0.08)	(0.10)	(0.08)	(0.11)
Decreased (Complexity/ Size)				
× Black		-0.27*		-0.29*
		(0.12)		(0.14)
× Hispanics		-0.47**		-0.38*
		(0.16)		(0.16)
Increased (Complexity/ Size)				
× Black		-0.18*		-0.17
		(0.09)		(0.09)
× Hispanics		-0.16		-0.18
		(0.12)		(0.12)
Married → Single[c]				
× Black		-0.06		-0.08
		(0.17)		(0.17)
× Hispanics		0.19		0.10
		(0.17)		(0.19)
Married → Married[d]				
× Black		-0.13		-0.14
		(0.11)		(0.11)
× Hispanics		-0.06		-0.04
		(0.11)		(0.11)
Age	-0.01**	-0.01**	-0.01**	-0.01**
	(0.00)	(0.00)	(0.00)	(0.00)
Female	-0.09**	-0.09**	-0.09**	-0.09**
	(0.03)	(0.03)	(0.03)	(0.03)
Attend college	0.32**	0.32**	0.32**	0.32**
	(0.04)	(0.04)	(0.04)	(0.04)
Log Household Income in 2005-06	0.39**	0.39**	0.39**	0.39**
	(0.03)	(0.03)	(0.03)	(0.03)
Self-rated Physical Health in 2005-06	0.09**	0.09**	0.09**	0.09**
	(0.02)	(0.02)	(0.02)	(0.02)
Health declined from 2005 to 2010	-0.09*	-0.09*	-0.09*	-0.09*
	(0.04)	(0.04)	(0.04)	(0.04)
Constant	6.78**	6.74**	6.78**	6.74***
	(0.39)	(0.39)	(0.39)	(0.38)
Subpopulation	2,190	2,190	2,190	2,190
Observations	2,241	2,241	2,241	2,241
F test	102.4***	69.67***	100.5***	67.6***
df	(12, 39)	(20, 31)	(12, 39)	(20, 31)

Standard Error in parentheses

*** p<0.001, ** p<0.01, * p<.05, †<.06, ††<.065

[a] Survey-adjusted and weighted to account for the probability of selection, with post-stratification adjustments for non-response.

[b] No changes in household composition,except older adults continue to live with a spouse

[c] Includes single live alone, and single living with children and/or others

[d] Includes living with a spouse only, and living with a spouse, children and/or others

Appendix 1. Multinominal Logisitc Regression of Household Size and Complexity on Demographics[a] d

	Household Size			Complexity		
	No changes	Decreased	Increased	No changes	Decreased	Increased
(unweighted N)	1,462	434	314	1,479	412	319
(Percent)	68	19.6	12.6	68.1	18.6	13.4
Black		0.64**	0.90**		0.56**	0.76**
		(0.15)	(0.18)		(0.17)	(0.19)
Hispanic, non-black		0.34	0.83**		0.27	0.80*
		(0.24)	(0.30)		(0.24)	(0.32)
Age		-0.01	-0.01		-0.01	-0.01
		(0.01)	(0.01)		(0.01)	(0.01)
Female		0.08	-0.05		0.09	-0.01
		(0.15)	(0.14)		(0.14)	(0.16)
Attend college		-0.12	-0.34		-0.11	-0.29
		(0.16)	(0.20)		(0.16)	(0.20)
Constant		-0.25	-0.81		-0.61	-1.04
		(0.86)	(0.73)		(0.81)	(0.71)
Subpopulation		2,200	2,200		2,200	2,200
Observations		2,251	2,251		2,251	2,251
F test		5.05***	5.05***		3.99***	3.99***
df		(10, 41)	(10, 41)		(10, 41)	(10, 41)

Standard Error in ɾ.

*** p<0.001, ** p<0.01, * p<.05

[a] Survey-adjusted and weighted to account for the probability of selection, with post-stratification adjustments for non-response.

Appendix 2. Proportion of Living Arrangements by Race[a]

	Total		White		Black		Hispanic, non-black	
	2005	2010	2005	2010	2005	2010	2005	2010
Single, live alone	21.2	26.2	21.2	26.5	27.5	33.2	12.3	12.6
(unweighte N)	562	648	401	474	125	135	36	39
Single, children	3.2	4.1	2.4	3.1	7.0	8.8	7.6	8.5
(unweighte N)	90	110	41	52	33	40	16	18
Single, others	2.8	2.8	2.3	2.2	6.2	7.0	3.8	4.2
(unweighte N)	74	79	36	38	25	29	13	12
Single, children, others	1.5	3.2	1.0	2.5	4.8	6.7	2.5	7.3
(unweighte N)	46	89	17	46	22	26	7	17
Spouse only	57.1	52.8	60.6	56.1	36.4	29.7	45.6	45.7
(unweighte N)	1,117	1,038	914	847	106	97	97	94
Spouse, children	9.2	5.5	8.4	5.1	8.6	6.0	19.3	10.5
(unweighte N)	205	123	128	77	33	21	44	25
Spouse, others	2.6	2.7	2.4	2.5	4.3	4.3	2.3	1.9
(unweighte N)	60	57	36	34	17	18	7	5
Spouse, children, others	2.4	2.7	1.7	1.9	5.3	4.3	6.7	9.3
(unweighte N)	56	66	26	31	16	11	14	24
Total	100	100	100	100	100	100	100	100
	2,210	2,210	1,599	1,599	377	377	234	234

[a] Survey-adjusted and weighted to account for the probability of selection, with post-stratification adjustments for non-response.