Living Arrangements among Elderly Women in the Panel Study of Income Dynamics*

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Introduction

The vast majority of care of elderly individuals is provided informally by family and friends. For married elderly, the spouse is far and away the most likely caregiver. However, for those who are widowed or single (typically women), the burden of care is often borne by children. Which child provides this care, the extent to which care giving is shared among siblings, and how families arrive at a particular arrangement are important questions. Their answers are key to understanding the role of the family in determining the well-being of the elderly and the likely consequences of such secular changes as declining family size, the rise of labor force participation of women and the potential restructuring of old-age security programs on this well-being. Simple empirical inspection of the correlates of care giving suggests that co-residence and geographical proximity are among the strongest predictors. However, as robust as these correlations are, they fail to inform us about the direction of causality and the nature of family decision-making with regard to where and with whom parents live as they become older. In particular, is the child co-residing or living near a parent in order to provide care efficiently? Or is she providing care because she was already living nearby?

We are certainly not the first group to analyze the residential choices of older unmarried women, the role of children and the nature of decision-making surrounding these choices. A sizable literature already exists which examines various aspects of these issues. Some of it has been based on new models of family decision-making. Some have tried to estimate the effects of increasing income for the elderly and its importance in explaining the trend to the higher incidence of living alone. Some have used new sources of data for the U.S. and other countries and some have focused on econometric strategies for dealing with the joint nature of parental living arrangements, health, and the competing demands on children's financial resources and time.[1] Finally, the work in this literature has made use of a wide variety of alternative sources of data in both the U.S. and other countries. In the next section, we provide a brief review of

[1] A separate strand of literature, which we ignore herein, looks at the change in living arrangements with respect to the consumption of housing wealth, i.e., "downsizing." See Sheiner and Weil (1992), Venti and Wise (2000, 2001) and Laferrère (2005b).

the main themes and conclusions of this line of work.

Our paper explores the living arrangements of elderly widowed or divorced mothers and the roles and influences of their children on these arrangements using the Panel Study of Income Dynamics (PSID). While the PSID has been in existence for almost 40 years, its potential to help us understand the living arrangements of the elderly and their determinants has not been fully exploited.[2] In many ways, the PSID represents an ideal data source for analyzing the role of the family in affecting the living arrangements of older parents. As discussed in detail below, the PSID provides longitudinal data on a wide range of phenomena for multiple generations of family members. This generational structure is the result of the PSID's "following rule" which, in principle, follows *all* of the biological and adopted children of earlier PSID respondents, as these children "split off" from their parents and form their own households. As a result, one has parallel data on family members that is available for a large portion of the lifetimes of many of these respondents. Such data allow one to track not only when elderly parents co-reside with their children but also in those cases in which they live independently, their geographic proximity and how co-residence and distance change as the parents age. Finally, because the PSID follows and interviews the members multiple generations of families, one does not have to rely on proxy reports for information about the income, wealth, health status, etc. of parents, children and siblings.

Of course no data set is perfect and data sets sometimes prove less suitable in practice than they appear to be in principle. This is potentially true with using the PSID to analyze the role of the family the affecting the living arrangements of the elderly because, while the PSID is an extremely rich data set, its initial focus, as its name suggests, was not on the interactions within families, but rather on changes in income and economic status over time. Thus, the early waves the survey did not gather much information about living arrangements or intergenerational relationships. Some of these shortcomings have since been rectified but others have not. For example, the PSID does not regularly contain information on whether or what care children are providing to their elderly parent and there is only limited information on respon-

[2] A notable exception is Ellwood and Kane (1990) that use the early waves of the PSID in an event history analysis of the marital status, disability, living arrangements and income of the elderly.

dent health or about financial transfers over the course of the study. Moreover, as we will discuss below, there are other features of the design of the PSID that can complicate the longitudinal analysis of families.

Accordingly, an auxiliary aim of this work is to determine the extent to which the PSID can be used for studying relationships among family members and the impact of these relationships on the well-being of the elderly. Additionally, we seek to learn where simple augmentations to the survey might improve our understanding of these familial ties. Because of this goal, in the discussion that follows we will pay particular attention to the design and content of the PSID, how we constructed our analysis files, and provide an assessment of the suitability of the PSID for analyzing the role of the family in determining living arrangements of the elderly.

More substantively, we use data from the PSID to analyze the living arrangements of elderly unmarried (widowed, single, divorced or separated) women. We model decisions about living arrangements as a choice to live independently, with a child, with others, or in a nursing home. Given the availability of relatively long panels of data for both parents and their children, we have data on the income of the mother before she lived with her child as well as information about her children, including their incomes and labor market status well before she reached old age and likely well before she was in need of assistance.

To our knowledge, there has been no systematic study of parent-child living arrangements over such an extended period of time. The PSID allows us to explore alternative econometric methods for dealing with the potential endogeneity of factors like income, health and the living arrangements of elderly parents and of their children. In addition, because we follow individuals for many years, we are not constrained to examine the choice of living arrangements at a single period in time or to look at a single change in living arrangements. Instead, we can examine the evolution of living arrangements over time and observe the extent to which movements to a nursing home or to live with a child are permanent transitions.

In what follows, we present both descriptive and more structured multivariate analyses of the living arrangements of the elderly unmarried mothers in our data. Furthermore, as noted below, the ultimate

goal of our line of research is to formulate and estimate an array of decision-theoretic models of the living arrangements for parents and children and how these decisions are related over the life cycles of each generation. We thus highlight some of the features of the PSID and the findings in this paper that will help determine the path our research agenda takes.

We find evidence that living arrangements are persistent over time and that controlling for the past experience in different living arrangements weakens the effect of factors like race and income that have been important predictors in cross-sectional studies of living arrangements. In addition, we find that controlling for individual heterogeneity in a fairly general way lessens the explanatory power of financial variables like current income and wealth suggesting that controlling for endogenous determination of income and wealth with living arrangements is important. We argue that following a woman from the time she is young and before she needs financial assistance or help with personal needs and controlling for her living arrangements during this period leads to quite different conclusions the determinants of their living arrangements and the roles and influences of children in those arrangements.

Our paper is organized as follows. In the next section, we lay out the existing knowledge on the subject. We include discussions of the literature on both caregiving and living arrangements. In section 2 we describe the data available in the PSID and provide, in some detail, a discussion of how we constructed our analytic sample. Section 3 provides some descriptive evidence of the choice of living arrangements and section 4 models the decision more formally. Section 5 examines, briefly, the likelihood of various transitions and the importance of multiple transitions. A final section concludes and offers direction for future research.

1. Background

Family members provide the lion's share of support for infirmed elderly. Only 25 percent of individuals with functional disabilities live in nursing homes, while the remaining 75 percent live in the community. For these community-based individuals, informal care is by far the dominant means of assistance with over 90 percent of those who receive assistance receiving some form of informal support (Health Policy

Institute).[3] Although a spouse is typically the primary caregiver for married elderly, children bear a large share of the burden. In fact, given the incidence of widowhood, 41 percent of these informal caregivers are children, while only 21 percent are spouses, and 26 percent are other relatives, primarily grandchildren and children-in-law (AHRQ, 2001).

Regardless of the kinship ties, caregivers are far and away more likely to be female than male. Sixty-five percent of caregiving spouses are wives, 70 percent of caregiving children are daughters, 76 percent of grandchildren caregivers are grand daughters and 85 percent of children-in-law who are providing care are daughters-in-law.[4] Caregivers also have been shown to have lower employment rates and to work fewer hours. However, the direction of causality for these relationships is not clear. Women may be more likely to provide care because they have a lower opportunity cost of time. Similarly, those who do not have strong attachments to the labor force will be able to provide care at a lower cost than those who are working. Alternatively, the need to provide care may lead to a reduction in labor force participation. It is important to note that it need not be the necessity of providing care in the current period that is depressing hours of work, but rather, it could be the expectation of future caregiving demands that reduces the incentive to invest in the labor market years before.

Hours of care provided to elderly family members vary greatly, but the average is approximately 20 hours per week. Unsurprisingly, many more hours of care are provided by co-resident caregivers than non-co-resident caregivers. For instance, among caregivers for those 70 or older, non-co-resident children averaged 8.5 hours of care per week while co-resident children averaged 38.5 (McGarry, 1998). Once again, however, caregiving and living arrangements are likely to be determined jointly, with those who need more care selecting a shared living situation and those who need less care, maintaining more independence. How these shared living arrangements arose is the primary aim of this paper.

An alternative to shared living arrangements is formal nursing home care. If individuals need

[3] 78 percent rely exclusively on informal care, 14 percent receive some formal and some informal care and 8 percent receive formal care only.

[4] See also for example, Soldo et al., 1990; Dwyer and Coward, 1991).

substantially more care than a family member can provide or if family members are unwilling to provide the necessary assistance, formal care may be the solution. Formal care can be provided in one's own home or in a nursing home. Both types of assistance are expensive. Home health care costs average $19 an hour or nearly $40,000 a year for 40 hours of care a week. Skilled nursing facilities average $75,000 a year (MetLife, 2007). And, although high quality facilities exist, more elderly would prefer to remain in their own home (citation).

Despite what appears to be a strong dislike of institutional care, nearly 40 percent of individuals over the age of 65 will spend some time in a nursing home. The typical stay is, however, short. Two-thirds of all stays last three months or less.[5] Yet, because some stays can last for an extremely long time, the average stay is over three years. How the probability and length of a nursing home stay relates to care provided by family members is not known. We do not know, for example, whether family care substitutes completely for institutional care or whether it simply postpones a nursing home admission for a period of time. Furthermore, we know little about which families rely on familial support and which turn to professional care or about the progression of caregiving forms.

Although most data suggest that co-residence of the elderly with their (adult) children is not the norm today, less than a century ago it was quite common. In 1900, approximately 70 percent of elderly unmarried women lived with their children, but by 1990, this figure had fallen to below 20 percent (McGarry and Schoeni, 2000). There have been a variety of hypotheses proffered to explain this decline in the incidence of the elderly living with their children and rise in the incidence of the elderly living alone.[6] With respect to demographic hypotheses, declines in fertility reduced the availability of children with whom widows and divorced mothers could live (Kobrin, 1976; Ruggles, 1994). A related notion is that the rise in the labor force participation of younger women over the 20th century made it more difficult

[5] The three month time frame is not coincidental. Medicare will cover stays of up to 100 days if they follow a hospital stay and the individual requires medical rather than, or in addition to, custodial care. Garber and MaCurdy (1993) document a spike in nursing home discharges when Medicare coverage ends.

[6] See McGarry and Schoeni (2000) and Ruggles (forthcoming) for reviews of the literature on the hypotheses and evidence for explaining the long run trends in the living arrangements of the elderly.

for daughters to care for their elderly parents. A third possible explanation for the rise in the independence of the elderly, especially those without spouses, is the secular improvements in health care, health status and life expectancy experienced over the past century. As elderly parents had fewer health problems and/or access to better health care, through programs like Medicare and Medicaid,[7] they were better able to care for themselves and were less in need of co-residing with their parents (Wolf and Soldo, 1988). Researchers also have emphasized changes in cultural factors and norms, including the rise in individualism and the decline in traditional values. Either or both of these changes may have lead to a declining set of responsibilities of families, including specifically, a decline in the need to be primary providers of care for the elderly. Finally, one of the most prominent hypotheses has been that the substantial expansion of the Social Security System, work-related retirement programs and economic growth as a whole, all served to increase the level of income available to the elderly and enabled them to support independent living arrangements rather than having to depend on their kin (Michael, Fuchs and Scott, 1980; Schwartz, Danziger and Smolensky, 1984; Costa, 1999; McGarry and Schoeni, 2000; amongst others). A number of studies have used alternative sources of data and identification strategies to assess the validity and relative importance of these alternative hypotheses for explaining the trends (Michael, Fuchs and Scott, 1980; Borsch-Supan, Hajivassiliou, Kotlikoff and Morris, 1992; Costa, 1997; McGarry and Schoeni, 2000).

A related literature analyzes the significance and importance of the demographic, economic and health-related characteristics of parents and their children on the living arrangements of elderly parents over the life cycle in more contemporary settings. Much of this work has been of a reduced form variety (Borsch-Supan, Kotlikoff and Morris, 1989; Ellwood and Kane, 1990; Kotlikoff and Morris, 1990; McGarry, 2003; among others), although a number of these papers have attempted to take account of the joint and endogenous nature of several choices made by (adult) children and the living arrangements of

[7] The establishment of the Medicare and Medicaid programs in 1965 made medical care and home health care more affordable. The Medicare program provides health insurance for nearly all those 65 or older. In addition to acute care needs, it currently provides limited coverage of long-term care needs. Medicaid is a means tested transfer program that provides health insurance to the poor. Both programs also provide support for care for the elderly in the form of nursing homes. For example, Medicare covers some nursing home stays while Medicaid funds a larger fraction of nursing home expenditures than any other source.

and care received by parents, including the children's locational decisions vis-à-vis those of their parents (Stern, 1995; Hoerger, Picone and Sloan, 1996; Konrad, Künemund, Lommerud and Robledo, 2002) and the labor force participation decisions of their children (Pezzin and Schone, 1997).

A more recent literature has developed and estimated bargaining models of the care and living arrangements of elderly parents and the role of their children. For example, Pezzin and Schone (1999) develop and estimate a family bargaining model between an elderly parent and one of her adult children over informal caregiving by the child, the child's labor force participation as well as the living arrangements of the parent and child. Checkovich and Stern (2002) and Engers and Stern (2002) extend these models to consider the potential role of all of an elderly parent's children in decision-making. Pezzin, Pollak and Schone (2007) extend the bargaining model of these decisions to allow for cooperative and non-cooperative solutions to the problem: "Who is going to take care of Mom?"

2. The Data to be Analyzed

As noted above, our study is based on a sample of older unmarried women – widowed, divorced, and never married – with children that are drawn from the Panel Study of Income Dynamics (PSID).[8] For convenience, in the remainder of the paper we will refer to these women as "widows," even though it in fact includes all unmarried women regardless of previous marital status. In this section, we describe the basic structure of the PSID and the selection criteria we use to construct our analytic sample. We then provide some descriptive information about the demographic and economic characteristics of our sample and illustrate some of the basic patterns of living arrangements for these older widows. We view these descriptive patterns as exceptionally informative as we know of no study that has been able to examine transitions into and out of various types of living arrangements over a long period of time to document the in-

[8] Although our focus is on co-residence and caring for unmarried elderly mothers, there are numerous interesting questions with regard to caring for unmarried fathers which we ignore. For example, it has been hypothesized that divorced fathers and fathers who were never married to the child's mother, may have weaker ties to their children, be less likely to have substantial contact with them as adults, and less likely to receive assistance in their old age (Lin, 2007). Unfortunately, identifying non-custodial fathers in most data sets – particularly identifying those fathers who were never married to the child's mother – is much more difficult than identifying unmarried mothers, and is likely to lead to severe selection biases in who is included in our sample. For the time being, at least, we ignore elderly men in our study.

cidence of multiple transitions. Rather, data limitations have forced most studies to examine cross-sectional patterns or transitions over one or two years.

2.1 The PSID

The PSID is a household based panel survey first fielded in 1968 at which time it was selected to be representative of the population of households in the United States.[9] The survey interviewed its respondents annually until 1997 and then switched to biennial interviews. Interviews have since continued at this rate, with the most recently available data being that collected in 2005. In our study we use data from 1968 until 2005.

The PSID is unusual among panel surveys in that it does not limit its coverage to the set of original respondents first interviewed in 1968, but rather adds children and spouses of these respondents to its sample when they are born or marry the respondent. It then follows not only the adult respondents in its original sample but also the biological and adopted offspring of these respondents, even when they leave their parents' households. These new households are what the PSID terms "split offs" and are treated identically to the original households. In effect, the biological and adopted children of PSID respondents are viewed as being endowed with a "PSID gene" and are followed indefinitely as they cannot lose this "genetic marker."[10] With these continual additions to the original household members, the initial sample of 18,230 respondents has grown substantially. Even with the reduction in sample size that occurred as of the 1997 interview due to budget constraints and the normal sample attrition, in 2005 there were 22,918 respondents in the PSID.

This policy of following (or attempting to follow) all children who left an original PSID house-

[9] Because the PSID sample was drawn in 1968, Hispanics, Asians, and other immigrant groups arriving after that time are under-represented relative to today's population. The PSID attempted to correct this undersampling in 1997 with the addition of an immigrant sample and altered sample weights, but for most of our sample period, we have few observations from these groups. Thus, although past analyses suggest significantly different patterns of living arrangements and care giving for elderly Hispanics, we are unable to address this issue.

[10] Not all of the original or subsequent members of a PSID household were followed when they left the the sample household. In particular, information on individuals without the "PSID gene," such as the spouses of PSID respondents, was gathered only as long as they remained in the same household as their PSID-gened spouse's. Similarly, following the genetic parallel, the PSID did not follow the step-children of PSID respondents when they left the households unless they had been legally adopted by the PSID respondent.

hold allows us to obtain information on items such as the income and wealth of adult children, even when the children no longer reside with the mother. This data availability is in contrast to most other data sources on elderly parents/widows, such as the Health and Retirement Survey (HRS) and National Long Term Care Survey (NLTCS), where the information that is available for children is obtained from reports of the parent. While one might expect that this reliance on proxy reporting by elderly parents for their children produces reliable data on such things as her children's gender and the number and ages of her children's children (i.e., a widow's grandchildren), the accuracy of a widow's proxy report on the annual income or current wealth of her children is clearly more suspect.[11] Moreover, the accuracy of such proxy reports may well vary systematically with whether a widow lives with or close to her children and/or has close emotional ties. The drawback of this mode of data gathering is that if the non-co-resident child cannot be located or refuses to be interviewed, we have no information on that child, while with parental reports, presumably some information is always available for every child.

The PSID is unusual in the length of time individuals are followed and in the detailed information on the individual's family, including interviews of many, if not all, members of the immediate family. In analyzing these data, we can observe children leave home for the first time as young adults, and examine factors such as their incomes, occupations, and number of own children and how these characteristics evolve over time. We also can observe whether at any point in our data the parent lives with the child, even if that co-resident arrangement was only temporary. As we demonstrate below, the long time frame helps us avoid the estimation problems posed by the simultaneous determination of living arrangements and employment, income or other child-level variables that may change with the need to provide care. Here we will have information on the child's employment, place of residence, etc. before there exists any need to provide care and similar information on the parent before any move takes place.[12]

[11] See Lin and Henning (2007) for an assessment of the accuracy of proxy reporting of transfers by mothers and their daughters.

[12] There is, of course, the possibility that an adult child remains at home or chooses to establish a home near a parent because she anticipates providing care at some point in the future. See Konrad, Künemund, Lommerud and Robledo (2002) for a game-theoretic model of the potentially strategic nature whether adult children live near or far from their elderly parents.

Data also exist on the geographic location of parents and children, but these data are confidential and their use is restricted to those who have approved data use agreements. We have obtained the restricted PSID data containing geographic identifiers but we have not used it in this version of the paper. These restricted data will allow us to measure not just co-residence, but the geographic distance between non-coresident parents and children and between siblings. Following children from the moment they leave their parents' homes also affords us the opportunity to analyze such issues as whether particular children strategically reduce the likelihood of having to care for a parent in the future by moving far away from the parental home. In this current version of the paper, we determine only whether parents and children co-reside.[13]

2.2 Our Analysis Sample

The sample from the PSID that we use in our analysis of the living arrangements of elderly widows was constructed as follows. We begin with female respondents in the PSID who have at least one child and whom we observe at some point in the survey to be living without a spouse (either because of death, divorce or separation) at age 58 or later. Because of data limitations and the needs of our study we further restrict our sample in the following ways:

1. *We require that our widows are observed at age 58 or over in 1984 or later*. Prior to 1984 there is no information in the PSID on health status or assets holdings and there are issues with respect to the coding of institutional living that make it extremely difficult to identify those who live in a nursing home.[14] Because these measures are central to our study, we are unable to exploit the earlier data. This selection criterion has the effect of excluding from our sample women from the earliest birth cohorts of the original PSID sample.

[13] An alternative to the PSID is to use the Health and Retirement Study (HRS). The HRS provides a much larger sample of elderly widows with information reported on each of their children in each wave of the survey. However, the HRS does not provide geographical information on children which we hope to employ, eventually, nor does it have interviews of the children or cover as long a time span. Because this paper is the first step of a large project exploring the causes and consequences of co-residence/geographical proximity, we prefer the PSID.

[14] We have verified this data limitation with Robert Schoeni and Tecla Loup at the Survey Research Center at the University of Michigan. See Ellwood and Kane (1990) for a method for attempting to identify nursing home residence.

2. *We require that the widows in our sample have at least one child who was, at some point, a member of a PSID household*: Because our focus is on the decision of a parent to live with a child, we limit our sample to women who have at least one biological child who was alive at the time the woman was 58 years old. Furthermore, because we are interested in how widows' living arrangements vary with the characteristics of their children – such as their childrens' current incomes, their marital status, and the number of their children – we require information about the children to be reported in the survey. Such data are not available for children if they had left the widow's household before the original interview in 1968 or if they had never lived with the widow.[15]
3. *We required that we have data on the widows in our sample when they were age 58*. All of the women in our sample are 58 or older and unmarried at some point after 1984. Some women are already widowed divorced at age 58 while for others, we observe the end of a marriage. The oldest cohort of women in our sample is followed from as early as 1968. Younger cohorts are picked up as they age into the sample. We selected age 58 at a starting point so as to measure of the characteristics of these women long before they are likely to become frail and need care. Our results are not sensitive to the specific age.[16]

After imposing these selection criteria we are left with a sample of 956 women. The panel aspect of the data provides us with several years of observations for each of our widows from ages 58 on, allowing for repeated observations on living arrangements and other time-varying characteristics. The typical individual in our sample is observed for, on average, 13 interviews with 8 unmarried and 5 married observations. All told we have 11,296 person–years of data. Table 1 shows the distribution person-years age and the PSID interview year from which we obtained the data. Moving down a diagonal, from left to right, one

[15]The PSID following rules are such that all household members at the initial 1968 survey are assumed to be given a PSID gene. They can pass that gene along to their biological (and adopted) children they bear (or adopt) but not to children already born. Thus children of these gened PSID respondents who had already left the home prior to 1968 are not given a PSID gene despite their biological ties to the original respondent.

[16] This restriction means that we lose observations for many of the oldest widows in the initial PSID survey as they were older than 58 when the survey began. We also lose those who were part of the supplemental Latino and immigrant samples added in the 1990s because they are not observed for enough years to have observations at both age 58 and 65.

can see how the number of person-years for women of a particular birth cohort varies with age and calendar time.

The entries in Table 1 illustrate several important features of the data. First, as noted above, our requirement that we observe women at age 58, skews our sample towards younger women. It also gives rise to a systematic relationship between age and survey year. In particular, while the person-years for younger ages (i.e., 58 thru the early 70s) are spread relatively evenly across waves, the majority of our person-years for older ages come from more recent waves of the PSID (i.e., 1994-2005).

By looking along the diagonals of the table one can observe the changes in sample sizes of widows in the particular birth cohorts. There are small fluctuations due to missing data. The larger declines in sample size that occur systematically as the cohort ages are, in part, the result of attrition from the PSID study or death. However, some of these declines are due to design features of the PSID, most notably to the approximately one-third reduction in sample size between the 1996 and 1997 interviews. The reduction in the PSID sample occurred disproportionately among members of the SEO (Survey of Economic Opportunity), a sub-sample of the PSID consisting of poor rural households in the south and poor urban households in the north. Based on the structure of these data, we are cautious about drawing conclusions with respect to the variation in living arrangements by age. While we expect that the age patterns are the result of changes in life-cycle phenomena, they also may be influenced by our sample inclusion rules and the design features of the PSID. In an attempt to account for these factors in our statistical analyses, we include dummy variables for interview years (or ranges of interview years).

Finally, one can observe in Table 1 the shift to biennial interviews in 1997. In addition to reducing the number of person-years in our sample, it creates longer "gaps" in the time series data on variables of interest. Importantly, we go from being able to observe annual changes in living arrangements, from ages t-1 to t, for those person-years gathered prior to 1997 to being able to construct only biennial changes.[17] As we shall discuss below, this change in the longitudinal information about living arrange-

[17] Unfortunately, the PSID event history calendar did not capture changes in living arrangements (email exchange with Tecla Loup).

ments presents certain complications for our analyses, most notably in our ability to calculate widows' cumulative years spent in alternative living arrangements.

3. Empirical Patterns of Living Arrangements

In this section we begin our look at the living arrangements of elderly widows in the PSID. We seek first to describe the patterns existing in our data and how they relate to characteristics of the elderly woman and her children. Because this is a preliminary look at living arrangements, using a data set seldom employed for this purpose, we devote a good deal of time to simple descriptive results before turning to a more formal analysis.

3.1 Living Arrangements by Age

To obtain a sense of how living arrangements evolve as women age, we present tabulations of the living arrangements of widows by age in Figures 1 and 2. The tabulations in both figures – and for the reminder of this section – are based on the following mutually exclusive categories of living arrangements of a widow at some age t: (1) widows living alone or what we refer to as "independent living"; (2) widows living with children, where at least one child has not left home since 1968;[18] (3) widows living with their own children, where these children left at some point since 1968 and either moved back in with the widow or the widow moved back in with them; (4) widows living with others, including non-relatives and relatives – such as grandchildren – but not own children; and (5) widows living in a nursing home. Also note that the tabulations displayed in these figures (and in Tables 1-4 and Tables A1 – A3) are based on weighted data, where we use the 1968 Family Weight of for the household in which the widow resided in 1968 or from which the widow was descended.

In Figure 1, we display the percentage of widows at each age who have experienced each of the last four living arrangements – living with children who left home and those that did no, living with others and living in a nursing home – at some point after age 58. This figure shows that by age 85, almost 45

[18] The "kid never left" (or "always lived with child") designation is, in practice, an indicator of whether the widow lived with the child for our entire period of observation – from 1968 until the last time we observe her. The child may have left home prior to 1968 or may leave at some point in the future.

percent of widows had lived with a child at some point between the year in which they turned 58 or were first observed in the unmarried state, whichever is later. The total number of person-years of data at each age is presented along the top of the figure. Note that because widows enter our sample at different ages and die or attrit at various times throughout the survey, the number of observations varies by age. Figure 1 excludes the independent living category because 80 percent of the sample lives alone at some point after age 58. After independent living, the next most prevalent living arrangement of widows in our sample is living with children, either with children who never stopped living with the widow or those that did.

The fraction of widows living with at least one of their children continuously from age 58 on is relatively constant at approximately 15 percent and decreases only slightly with age. We initially found this result surprising as we know of no studies that have focused on this phenomenon although it appears to be an important feature of co-resident arrangements. The fraction of widows living with children who did leave home at some point rises from approximately 29 percent at age 59 to 45 percent before falling slightly between age 76 and 80 and rising after age 80. (The line does not increase monotonically as one would expect with a cumulative distribution function because exits (or attrition) from the sample continually change the underlying population. It is important to note that these findings about co-residence of widows with children need be the result of widows needing assistance. In fact, it is likely that at least some fraction of these cases – particularly for the relatively young widows – is characterized by the adult child moving into his or her mother's home because of his or her need of assistance. We note that the latter phenomenon of what is called "boomerang children" is discussed frequently in the popular press (Ramachandran, 2005; Business Week, 2003). The steady increase in the fraction of women who have lived with their children at early ages and the relative flatness in later ages (at which time the mothers themselves are likely becoming frail) supports this notion of boomerang children. In contrast, the increase in living with kids after age 80 is more consistent with a care-giving role for children.

The next most frequently observed living arrangement for widows is living with others. Recall that our definition of "others" includes grandchildren and, although not highlighted here, living with grandchildren is more common among older black women than older white women. Almost 25 percent of

older black women live with others at some point after age 58. Finally, Figure 1 indicates that there is a consistent upward trend in nursing home use by widows, although, except for an unusual spike at age 83, the fraction living in nursing homes does not begin to comprise a meaningful portion of the sample until the oldest ages. This result is consistent with other evidence that among women nursing home admissions happen primarily at advanced ages.[19]

These results in Figure 1 accord with our intuition but also demonstrate that co-residence with children is a much more frequently occurring phenomenon than one might have expected and begins at relatively young ages. Furthermore, these findings, clearly suggest that one misses an important element of the interaction between older parents and their children if one views their co-residence as primarily to benefit a parent who can no longer care for herself. More to the point, these findings clearly indicate that the co-residence of elderly parents and their children requires us to consider the benefits and costs of this arrangement for both parents – widows in our case – and their adult children. We return to this issue below.

In Figure 2, we plot the distribution of the current living arrangements of the widows in our sample by age. As shown in the figure, the most common living arrangement of unmarried elderly mothers at any age is living alone. As the graph shows, the incidence of living alone is relatively flat until age 62 and then actually rises with age until around 75, when it starts to decline. This rise in the incidence of elderly widows living alone is due almost entirely to the decline in these widows living with their children, something that occurs during widows' late 60s. As can be seen in this figure, over 40 percent of the widows in our sample are living with their children at age 58, but this rate declines to around 20 percent by age 75 after which it starts to rise.

As already noted, although the majority of widows living with children at any given age are living with children who have left their parents' household sometime between 1968 and when their mother reached age 58, a substantial fraction of those living with children are living with children who have not

[19] Brown and Finkelstein (2004) provide statistics showing that the average age of first nursing home admission for 65 year old women is 83.

left the widow's household since 1968. For example, at age 58, 31 percent of those living with children are residing with ones who had not left their parents household since 1968. As these children leave to start their own households, the mother is observed to move from living with a child to living independently. At older ages, the proportions of widows living with children are increasingly comprised of those whose children at some time left the parents' household but later returned (or the mother moved in with the child) with fewer and fewer cases in which co-residence was continuous. However, it appears that some children never leave. Even by age 85, 7 percent of widows are living with children who are not observed to have left their parents' household after 1968, and this arrangement constitutes one-fifth of those children living with their parents. As we will highlight later, a sizeable fraction of the households in our data in which children of elderly widows have not yet left her household are African American and poor.

Unlike the fraction of widows who live with children, the fraction who live with others decreases at older ages which is not surprising because many of the widows living with others are living with grandchildren. Finally, we note that our data displays the small but growing fraction of widows who live in nursing homes. At age 70, just 2 percent of the widows in our sample live in nursing homes. However, by age 80, 10 percent of them are in nursing homes and this fraction grows through the mid 80s and into the 90s.

3.2 Correlates of Living Arrangements

To learn more about what factors are correlated with living arrangements, in Table 2 we present some descriptive statistics of the widow and her family by type of living arrangement. The table shows the means of several variables for the person-years in which our widows are unmarried by current living arrangement. (Tables A-1 – A-3 show these means separately for various age groups.) As before, we divide the category of living with children into two subgroups, those who moved in with a child (or had a child move in with them) at some point after a period of the child's independence, and those who have at least one child who has lived at home since 1968. This latter group is noteworthy in part because past studies have made no distinction between the two pathways through which a widow could have arrived at a co-

resident arrangement. Yet as will be apparent from the means in the table below, the two groups are different along several dimensions. The continuous co-residence into adulthood of children with their parents may be the result of longstanding financial or health needs of either party or may demonstrate a strong taste for co-residence within the family. This is one of the issues we seek to explore further in future work.[20] In Table 2, we examine whether the means of this set of covariates for those living with others, in a nursing home, and with kids – either continuously or not – are significantly different than the corresponding means for those living alone.

Consider first how socio-economic varies with the living arrangement of the widow. There is a strong relationship between race and living arrangements those living in an institution being less likely to be black than those living with a child. Only four percent of women in our sample who are observed in a nursing home are black while 26 percent of those living with others and of those living with a child are black.[21] These results agree well with past studies that show blacks are significantly less likely than whites to enter a nursing home. Differences in schooling attainment of living arrangements relative to living alone are also large, with about 25 percent of those living alone having some college compared to less than 20 percent of those living with children. Almost 50 percent of those who live with a child who has never left home have less than a high school education. This effect gets larger with age suggesting that those who continue to have a child at home are much less well off than their counterparts in other living arrangements. Unsurprisingly, there are strong differences by age. The average nursing home resident is 79 years old compared to 68 years old for the rest of the living arrangements. We also see some cohort effects with those in a nursing home more likely to come from the oldest cohorts and the youngest cohorts not yet old enough to need the services of a nursing home.

Living arrangements also are strongly related to the availability of a child with whom one can co-

[20] Although we do not highlight it in later tables, in approximately one-half of these "always lived with child" cases the child is reported to be receiving disability income (SSI) suggesting that the parent is the caregiver of the child.

[21] One of the drawbacks of the PSID is that because it was representative of the population in 1968, there are too few Hispanics or Asian respondents to support separate analyses for these groups. The 26 women who are neither white nor black are included with whites for the analysis.

reside. Those living with children have significantly more children and are more likely to have an unmarried daughter than those living alone or in an institution.

Past work has repeatedly shown that living arrangements are strongly correlated with income (citation). With that in mind, the differences by income are particularly interesting. If one considers income in the overall sample, there are large differences in income across groups. Widows living independently have incomes that are, on average, approximately 25 percent higher than the incomes of women in the other living arrangement categories. However, it is not clear whether incomes differences are the cost of these differences in living arrangements as both income and living arrangements are likely jointly determined. For instance, it may well be that income is low among nursing home residents because those with low income can qualify for Medicaid, making nursing home residence much more affordable. Alternatively, individuals may have intentionally divested themselves of assets (and thus lost asset income) in order to qualify for Medicaid because they wanted or expected to use a nursing home, or they may have spent down their savings coping with a serious health condition prior to their admission to a nursing home.[22] Similarly, income may be low among those living with children because they retired early in anticipation of living with children, assigned assets to children in exchange for co-residence or out of altruism, or because programs such as SSI reduce benefits for those living in the home of another.

As shown in Tables A-1 – A-3, women living alone consistently have higher incomes than those in other living arrangements across the age groups. However, at older ages, the differences in income between those living alone and those in other living arrangements become larger and more significant. In the youngest age range (58-65) the differences in the income of widows according to their living arrangement is not very large and is only marginally significant. In the older age ranges this difference becomes larger. The smaller differences in income across living arrangement at younger ages than appear is the case at older ages may be the result of the endogenous relationship between income and living ar-

[22] Individuals who are institutionalized and who have little in the way of assets can become eligible for Medicaid even if their income is above the Medicaid eligibility limits, if the cost of the nursing home exceeds their ability to pay. Medicare pays the additional costs of a nursing home, leaving a small amount of cash to the institutionalized individual for personal expenses. Medically needy programs such as this existed in 36 states in 2006.

rangements noted above. The income of the widow's children is lower among widows living with their children. The income of the widow's children may also be endogenous. Children may experience difficulty maintaining their own household and move in with their mother or they may move in with their mother for care-giving purposes and experience a drop in income as a result. In the empirical analysis presented below, we attempt to deal with this source (and other sources) of endogeneity in estimation.

Obtaining separate measures of a widow's or a child's wealth is more difficult because the PSID obtains information on total *household* wealth and does not determine how it is distributed among the members of the household. As a result, if a widow has a child living with her (or is living with one of her children), our measure of wealth is the total wealth held by both parties.[23] Comparisons of wealth levels for those who live with children and those who live independently are therefore not valid. To get around this problem, we calculate a measure of what we term "average dynastic wealth." Average dynastic wealth is the sum of the wealth of the widow's own household and the households of all her children, divided by the number of households.[24] In a sense this variable provides an indication of the wealth to which the widow potentially has access with some control for the number of individuals who have a potential claim on that wealth. Whereas our other measures of socio-economic status consistently indicated that independent living widows were the best off financially, here widows living in a nursing home look very much like their independent counterparts. This pattern provides some suggestion that the child(ren)'s ability to pay for care might be an important predictor of nursing home utilization. Or alternatively, that the opportunity cost of caregiving is higher for wealthy children. As before, those widows living with their children are the worst off in financial terms. The average wealth for those living with a child who never left is higher than the average wealth of those living with other children. However, those who live with children who never left home are more likely to have zero or negative wealth. Section 3.3 explores

[23] Unfortunately, we are unable to identify even the owner of the home in which the parent and child live.

[24] Note that because not all non-co-resident children are necessarily interviewed by the PSID, this measure may not capture all the wealth available to the dynasty. By using average per household we hope to eliminate any bias due to missing observations as long as the child who are not interviewed are not systematically different in terms of wealth from their included siblings. We note also that for larger families, the wealth of the widow is "diluted" more by the addition of the wealth of her children than is the case for smaller families.

the differences between the two groups of widows living with children by income quartiles and finds a pattern consistent with the differences in wealth in which both poor and rich women live with children who have never left home.

Health is obviously an important predictor of living arrangements. Many studies have used indicators of limitations with respect to activities of daily living (ADLs) or instrumental activities of daily living (IADLs) as proxies for an individual's ability to live independently, Furthermore, these measures are used by insurers to assess one's eligibility for nursing home care. Unfortunately, the health measures in the PSID are limited. Information on ADL limitations is available for just the years 1992 to 1996 and 2003 to 2005 and is therefore of little use in our study which covers a much longer span of time. Self reported health status (excellent, very good, …) is available for everyone in the sample for the years 1992-1996. But from 1984-1992 and from 1996 onward, it is present only for those individuals who are heads of households or the spouse of a head. Although not perfect, this measure is the best we can do and is what we employ in our multivariate analysis. In cases which self reported health is not available for a particular person in a particular year, we use the report from the closest available year.[25]

Using this measure of health, we find a large difference across groups, particularly at older ages. Between the ages of 58 and 65, about 30 percent of those living independently and those living with children report themselves to be in poor health. However, after age 75, about 30 percent of those either living independently or with kids who have never left home are in poor health compared with over 50 percent of widows living with their children. Poor health is always an excellent predictor of nursing home residence with about 80 percent of those in nursing homes reporting to be in poor health across the age ranges. Disability is another measure of health. Across the age ranges, a smaller fraction of those living independently are disabled than those living in any other arrangement. Having a disabled child is a strong predictor of living with children across the age spectrum.

[25] Missing values for self reported health are primarily from those who are living with children and who are not the head of a household or spouse. Although unfortunate, this is a rare occurrence and we hope does not affect our conclusions to a measurable extent.

We saw earlier that it was the number of children (and number of daughters) that differed across types of living arrangements. Because past work has continually found strong evidence that unmarried children are the most likely to provide care, we also look at whether the widow has an unmarried child and/or an unmarried daughter (e.g. Wolf and Soldo, 1988). Unsurprisingly, women who have a child who never left home are more likely to have both a single child and a single daughter, most probably the child who is still living at home. At the oldest ages, this effect of having an unmarried daughter seems to diminish. After age 76, only 25 percent of those living with a child who has never left home have a single daughter while almost all of them have a single child. Children who remain at home for very long periods of time, into their mother's 70s, may be at home because of a long-term disability or other health problems that keep them from establishing independent households. Those who live with a child but who were at some point independent also are more likely to have single children and single daughters throughout the age range. Causality is difficult to infer. While it may be most efficient for a single child to move home when the mother needs care, it also could be the case that a single child is having trouble meeting expenses or has moved home after a divorce or separation. Those who live in a nursing home are much less likely to have a single child or a single daughter. This result suggests that a single child might be protective against nursing home admission.

It is not just the family that determines the living arrangement, but the availability and price of outside options. To capture the available care, we include state-level variables describing eligibility criteria for Medicaid.[26] We include a dummy indicating whether the state has a spend-down provision in place, the income standard to qualify for Medicaid if the state does not have a spend-down provision, and the Medicaid payment rate per day for nursing home. We do not see higher average reimbursement rates, lower average income limits or a greater likelihood or having a spend down provision among widows who live in a nursing home as compared with the other living arrangements, except for a slightly higher probability of living in a state with a spend-down provision for those living with kids who never left

[26] These variables were kindly provided by David Grabowski. They are the same variables used in Grabowski and Gruber (2006).

home.

3.3 Living with a Child who Never Left Home

Living with a child who never left home is something that has not been explored to any great degree. Thus, in this section, we explore this phenomenon in greater detail. Because the women who live with a child who never left home are, on average, poorer in terms of income and wealth and less educated it is tempting to assume that they are from very poor families in which children and parents cannot afford to establish independent households.

To examine this question more carefully, we look at income by quartiles and race to see if there are any discernable differences between women living with children who never left home and those living with children who left home at some point. The group of women who live with a child who never left home consists of two sets of women who are potentially different. One set of women are those who were already living with adult children in the 1968 interview. In order to be in our sample, these women must be observed after 1984 but they may have person-years between 1968 and 1984 in which they are living with a child who was never observed to leave the home. The child may indeed have left home but we did not observe the home-leaving event because it occurred before the initial interview in 1968. These make up about 10 percent of the women who are ever observed living with a child who never left home. The second set of women are those who are living with their children in 1968 and these children never leave home and are observed living with their mother after the age of 25. The second group is the one we are more interested in because this continued co-residence with a parent into a parents' old age may be very different than returning to live with a parent after leaving home. In order capture the group of women who are co-residing long term with children who have never left the home, we look at person-years after 1984 for this discussion. At a minimum then, if a single woman was living with an adult child in 1968, that child would need to remain in the household for an additional 16 years be included in these tables. We use 1984 as the cutoff because this also is when data on wealth become available.

Table 3 shows the percent of women in each living arrangement in each income quartile after

1984 for whites in the top panel and blacks in the bottom panel. Whites living with a child who left home at some point are more likely to be in the first (lowest) income quartile and less likely to be in the top income quartile than the average among whites. However, those living with a child who never left home are more likely than average to be in either extreme, both in the lowest and this highest quartile. These tabulations for whites suggests that living with a child who never left home is not only a phenomenon of the poor but also of wealthier widows, perhaps because wealthier parents providing a very comfortable home and, as a result, their children are in no hurry to "leave the nest." The pattern for blacks is somewhat different. Blacks who live with a child who left home look very much like the average black but those living with a child who never left home are overrepresented in the lowest income quartile.

In Table 4 we display the fraction of each income quartile in each living arrangement for whites in the top panel and blacks in the lower panel. We see a similar pattern with more whites in the first, second and top income quartiles living with kids who never left than the average number who live with kids who never left. This contrasts with the pattern for whites living with children who have left home in which the fraction is decreasing as we go up the income quartiles. For blacks, we see a similar pattern in which the fraction of women in the lowest and highest quartiles who live with a child who never left are higher than the overall average and the middle quartiles are lower. For women who live with children who have left home the pattern is more uniform across the income quartiles. Finally, the results in Table 4 appear to imply that the living arrangements of white widows are more differentiated by income than is the case for black widows.

4. Multivariate Analyses of Living Arrangement Choices

The descriptive evidence points to differences in the choice of living arrangements by socio-economic status, yet because factors such as race, income and education are correlated, it is impossible to discern their relative effects from a study of the means. To assess more directly how each of these factors influences the choice of living arrangements we turn to multivariate analyses of the determinants of widows' living arrangements, which we describe in Section 4.1. We employ a *multinomial probit* model in this

analysis, with alternative specifications, both with respect to the vectors of variables that affect these decisions and with respect to modeling the persistence of choices that we noted above and with respect to the endogeneity of widows' and her children's incomes with respect to these choices. In Section 4.2, we present results for four alternative specifications of a model of the determinants of widows' living arrangement choices.

4.1 Econometric Specification of the Determinants of Widows' Living Arrangements

In this section, we motivate and outline the multivariate methods we use to estimate the determinants of widows' living arrangement choices. We begin with baseline models that characterize the influence of widows' demographic, economic and health status[27] characteristics, and measures of policy parameters for Medicaid's long term care program[28] and of economic conditions in the widow's state-of-residence.[29] We then extend these specifications to include histories of past living arrangement histories in order to account for the perceived persistence in a widow's living arrangements and for unobserved heterogeneity that may *jointly* influence widows' living arrangement choices and their incomes and that of their children.

Let d_{jit} denote a 0/1 indicator variable, where $d_{jit} = 1$ if the i^{th} widow is observed to in *living arrangement j*, $j = 1,\ldots,J$ at widow's age t and $d_{jit} = 0$ if arrangement j is not chosen. It follows that $\sum_{j=1}^{J} d_{jit} = 1$, for all t and i. Let V_{jit} denote the subjective payoff, or utility, to widow i from living arrangement j at age t. We begin by considering a *baseline* specification of arrangement specific payoff functions and then discuss extensions to this specification. Thus:

$$\begin{aligned} V_{jit} &= V_j(\boldsymbol{X}_{it}, \boldsymbol{Y}_{it}, \boldsymbol{\beta}_j) + \varepsilon_{jit} \\ &= \beta_{0j} + \beta_{1j}' \boldsymbol{X}_{it} + \beta_{2j}' \boldsymbol{Y}_{it} + \varepsilon_{jit}, \end{aligned} \tag{1}$$

[27] Given our limited health information, we simply include a dummy variable that is equal to one if either the widows' or child's health is reported to be fair or poor. In future versions of the work we will experiment with limiting the sample to later years of the PSID in which more complete health characteristics are available to test the robustness of our results.

[28] We use characteristics of state/year specific Medicaid rules and reimbursement rates to proxy the price and availability of institutional care.

[29] We use state/year specific variables on employment rates and wages to proxy for general economic conditions.

where $\boldsymbol{X}_{it}$ is a vector of demographic characteristics of the widow and of her children and $\boldsymbol{Y}_{it}$ is a vector that includes such variables as the widow's and her children's income, wealth and health statuses, ε_{jit} denotes an arrangement-specific disturbance term, and $\boldsymbol{\beta} = (\boldsymbol{\beta}_1', ..., \boldsymbol{\beta}_j', ..., \boldsymbol{\beta}_J')'$ are parameters to be estimated. For now, we assume that the ε_{jit}'s are i.i.d. draws from a normal distribution for each *j* and *t*. That is, the vector $\boldsymbol{\varepsilon}_{it} = (\varepsilon_{1it}, \ldots, \varepsilon_{jit}, \ldots, \varepsilon_{Jit})' \sim N(\mathbf{0}, \Sigma)$, where

$$\Sigma = c^2 I_{J \times J} \tag{2}$$

where *c* is a non-zero constant and $I_{J \times J}$ is the $J \times J$ identity matrix. Finally, we assume for now that $\boldsymbol{\varepsilon}_{it}$ is uncorrelated with $\boldsymbol{X}_{it}$ and $\boldsymbol{Y}_{it}$, i.e.,

$$E(\boldsymbol{\varepsilon}_{it} \,|\, \boldsymbol{X}_{it}, \boldsymbol{Y}_{it}) = 0 \forall t. \tag{3}$$

That is, we are assuming that $\boldsymbol{X}_{it}$ and $\boldsymbol{Y}_{it}$ are *exogenous* with respect to living arrangement choices. We relax this assumption below.

We assume that the living arrangement at age *t* is chosen to maximize the widow's utility, i.e., the widow's decision problem at age *t* is:

$$\text{Choose } \textit{Arrangement } k \ (d_{kit}=1) \text{ iff } V_{kit} = \max_{j \in J} \{V_{jit}\}. \tag{4}$$

It follows from (2) and (4) that the probability of choosing living arrangement *k* is:

$$\begin{aligned} P_k(\boldsymbol{X}_{it}, \boldsymbol{Y}_{it}, \boldsymbol{\beta}) &\equiv P_k(d_{kit}=1 \,|\, \boldsymbol{X}_{it}, \boldsymbol{Y}_{it}, \boldsymbol{\beta}) = \Pr\left(V_{kit} - V_{jit} > 0, \forall j \neq k \,|\, \boldsymbol{X}_{it}, \boldsymbol{Y}_{it}, \boldsymbol{\beta}\right) \\ &= \int_{\frac{\varepsilon_k}{c}=-\infty}^{\infty} \prod_{j \neq k} \Phi\left(\frac{V_k(\boldsymbol{X}_{it}, \boldsymbol{Y}_{it}, \boldsymbol{\beta}_k) - V_j(\boldsymbol{X}_{it}, \boldsymbol{Y}_{it}, \boldsymbol{\beta}_j) + \varepsilon_k}{c} \right) d\phi\left(\frac{\varepsilon_k}{c}\right), \end{aligned} \tag{5}$$

where $\Phi(\cdot)$ denotes the standard normal cdf and $\phi(\cdot)$ the standard normal pdf. We note that because only the differences in arrangement choice payoffs – and not the levels of these payoffs – enter into the determination of the probabilities, it follows that only the differences in the β_j's are identified and a set of normalizations need to be applied. Accordingly, we assume throughout that $\beta_J = 0$. We also set $c^2 = 0.5$. Estimation of the parameters of the model, $\boldsymbol{\beta}$, are achieved by maximum likelihood.[30]

[30] All estimation is undertaken using the statistical package, aML.

Below, we present estimates of two versions of the baseline model. *Baseline Model I* includes in $\boldsymbol{X}_{it}$ variables characterizing the widow's race, age (*t*), educational attainment, the number of her children and grand children, variables indicating her marital status at age 58, the widow's disability and health status and whether or not she has a disabled child, and dummies variables for calendar year, and in $\boldsymbol{Y}_{it}$ variables measuring the log of widow's current income, the log of the median of her children's income and the log of her dynasty's average wealth. In the *Baseline Model II*, we include the same variables found in Baseline Model I *plus* parameters characterizing the Medicaid long term care program and measures of labor market conditions (employment rates and average wages per worker) for the widow's state-of-residence.

The specifications of the payoffs to living arrangements in (1) do not adequately characterize persistence in the living arrangements a widow chooses at any given age. As noted above, the data suggests that the likelihood that a widow is found to be in living arrangement *j* at age *t* is greater if she chose the arrangement in *t*-1 and earlier ages. Such persistence in living arrangements is a form of *duration dependence*. A convenient way of allowing for duration dependence and the more general phenomena that one's choices at age *t* may depend on the history of choices made in the past, is to augment the specification (1) to include measures of a widow's living arrangement histories into in living arrangement payoffs as follows:

$$\begin{aligned} V_{jit} &= V_j(\boldsymbol{X}_{it}, \boldsymbol{Y}_{it}, \boldsymbol{L}_{it}, \boldsymbol{\beta}_j^*) + \varepsilon_{jit}^* \\ &= \beta_{0j}^* + \beta_{1j}^{*\prime} \boldsymbol{X}_{it} + \beta_{2j}^{*\prime} \boldsymbol{Y}_{it} + \beta_{3j}^{*\prime} \boldsymbol{L}_{it} + \varepsilon_{jit}^*, \end{aligned} \tag{1'}$$

where $\boldsymbol{L}_{it}$ denotes a vector of cumulative histories of the time the widow spent in the various living arrangements from age 58 until age *t*. We note that this specification changes the interpretation of the coefficients on $\boldsymbol{X}_{it}$ and $\boldsymbol{Y}_{it}$ in that these coefficients now measure the effect of a change in elements of these vectors on the payoffs to a particular living arrangement, holding *constant the widow's past living arrangements*. As such, these parameters now measure the influence of variables on the *instantaneous* or *current* payoff of living in a particular arrangement. Below, we present estimates of a model that includes these cumulative living arrangements, which we refer to as the *Baseline Model II plus Cumulative Living*

Arrangements.

Finally, we note that none of the above models account for unobserved heterogeneity in estimation. There are at least three reasons why this failure may bias our estimates of $\boldsymbol{\beta}$ (or $\boldsymbol{\beta}^*$). The first concerns the fact that there may be common unobserved factors that influence all or a subset of the living arrangements, giving rise to a correlation between ε_{jit} and $\varepsilon_{kit'}$ for j, k, $j \neq k$, and t and t'. For example, widows may have preferences over attributes such as privacy, proximity to relatives, etc., and living arrangements may vary with respect to these attributes. Failure to measure such attributes can give rise to correlation in the unobserved components of living arrangement payoffs.

Second, as we have already noted, the two baseline specifications, as well as the specification that include widows' living arrangement cumulative histories, all assume that $\boldsymbol{X}_{it}$ and $\boldsymbol{Y}_{it}$ are exogenous determinants of widows' living arrangements. While the exogeneity of $\boldsymbol{X}_{it}$ may be plausible, as we have noted above, it is less plausible to assume that the contemporaneous incomes or wealth of widows and her children in $\boldsymbol{Y}_{it}$ are exogenous vis-à-vis widows' living arrangements.[31]

Third, the inclusion of widows' cumulative living arrangements ($\boldsymbol{L}_{it}$) into the widows' living arrangement payoff functions, while a plausible way of dealing with persistence in these arrangements, is open to the concern that the criticism that past living arrangement choices are likely to be correlated with those unobserved factors, such as tastes for privacy, etc., that influence current living arrangements. We note that the econometrics literature has long argued that such unobserved sources of heterogeneity provide a plausible alternative explanation for temporal persistence in choices.[32]

To address these three potential sources of bias, we adapt the econometric framework of Heckman (1981a, 1981b) and Cameron and Heckman (1993, 1999) for estimating dynamic discrete-choice models that condition on functions of past choices and other endogenous variables, like income, that enter choice-specific payoff functions. Specifically, starting at age 58 we jointly estimate widows'

[31] We note that a similar argument can me made concerning the potential endogeneity of the health and disability status of widows and their children vis-à-vis widows' living arrangements.

[32] See, for example, the discussion in Heckman (1981a) of the problem of separating out state dependence and unobserved heterogeneity in dynamic discrete choice models.

life cycle living arrangements choices implied by the decision rule in (4) using the payoff functions in (1) and (1′) along with auxiliary equations for the elements of $\mathbf{Y}_{it}$ that take the form:

$$y_{mit} = \delta_{m0} + \delta_m' \mathbf{X}_{it} + \omega_{mit}, \tag{6}$$

for each of the M elements of $\mathbf{Y}_{it}$, where we allow for temporal as well as contemporaneous correlation of ε_{jit} and ω_{mit}, for all j and m. To accommodate such correlations in a computationally tractable way, we follow Heckman (1981a) and Cameron and Heckman (1999) in assuming that the error structure for ε_{jit} in (1) and (1′) and for ω_{mit}, in (6) can be characterized by a *factor-analytic, random effects* structure:

$$\varepsilon_{jit} = \alpha_j \xi_i + u_{jit}, \ \forall\ j, t, \tag{7}$$

and

$$\omega_{mit'} = \kappa_m \xi_i + \eta_{mit'}, \ \forall\ m, t', \tag{8}$$

where ξ_i denotes a widow-specific disturbance or factor; α_j and κ_m are living arrangement- and income-component-specific factor loadings; and u_{jit} and $\eta_{mit'}$ denote idiosyncratic disturbance terms that are assumed to be uncorrelated with ξ_i. It follows that:

$$\begin{aligned}
&\text{Cov}(\varepsilon_{kit}, \varepsilon_{jit'}) = \alpha_k \alpha_j \text{Var}(\xi_i), \ \forall k, j, \text{ and } t, t', t \neq t', \\
&\text{Cov}(\varepsilon_{kit}, \omega_{mit'}) = \alpha_k \kappa_m \text{Var}(\xi_i), \ \forall k, m, \text{ and } t, t', t \neq t', \\
&\text{Cov}(\omega_{mit}, \omega_{m'it'}) = \kappa_m \kappa_{m'} \text{Var}(\xi_i), \ \forall m, m', \text{ and } t, t', t \neq t'.
\end{aligned}$$

Furthermore, it follows that while

$$E(\boldsymbol{\varepsilon}_{it} \,|\, \mathbf{X}_{it}, \mathbf{Y}_{it}, \mathbf{L}_{it}) \neq 0, \tag{9}$$

It is the case that:

$$E(\boldsymbol{\varepsilon}_{it} \,|\, \mathbf{X}_{it}, \mathbf{Y}_{it}, \mathbf{L}_{it}, \xi_i) = 0, \tag{10}$$

for all t. Thus, including the above common factor in the joint estimation of the multinomial probit specification of widows' living arrangements and auxiliary equations for the widows' and their children's income and wealth across the widows' ages, provides us with *a strategy* for dealing with the endogeneity of the income, wealth and past living arrangement variables in widows' living arrangements payoff functions and, thus, the potential for bias in the estimation of of $\boldsymbol{\beta}$ (or $\boldsymbol{\beta}^*$).

The estimation of this final specification – which we refer to as *Baseline Model II plus Cumulative Living Arrangements & Factor Structure* specification – is accomplished by maximum likelihood where we assume that $\xi_i \sim N(0,\sigma_\xi^2)$, using longitudinal data on our sample of widows from age 58 through the oldest age observed for each widow.

For all of the specifications noted above, we collapse our categories and classify the women into one of four living arrangements at each age due to limitations of the estimation routine. In particular, we use the following four categories for widows living arrangements: 1) living independently; 2) living with a child; 3) living with others, including grandchildren; and 4) live in an institution. Those who live with a child who never left home are included in the living with a child category. In order to continue to identify any effects that are different between for the two groups, we include interaction terms in the living arrangement choice equation and we model separately the transition out of living with a child who never left. Below, we present estimates only for the parameters of the living arrangement choice component of this final model, given our primary focus on the determinants of these choices.

To control for the choice set available to the widow with regard to living with children or grandchildren ("other"), we include characteristics of the children. The number of children for the women in our sample varies from one to 15. Thus, it is not feasible to construct a vector of variables with separate information for each child. We therefore include summary statistics for the children including the number of children, number of daughters, whether there exists an unmarried daughter and an unmarried child, the median income of the widow's children and the number of grandchildren.

Because living arrangements are correlated over time we control for the number of years that each woman in our sample has spent in each living arrangement since age 58. The living arrangements for which we measure cumulative experience are living alone, living with others, living with kids and living in a nursing home all separated by marital status. We separate the cumulative variables by marital status to see if the effect on current living arrangements differs by marital status. For example, if a child was living at home to help take care of an ill father, we may not expect the cumulative experience of living with

kids while married to be an important predictor of the child's mother living arrangements after the father dies.

Finally, for all of the four model specifications noted above, we present estimates of the *marginal effects* of the elements of $\boldsymbol{X}_{it}$, $\boldsymbol{Y}_{it}$, and $\boldsymbol{L}_{it}$, on the probabilities of choosing each of the four living arrangements, i.e.,

$$\frac{\partial P_k(\boldsymbol{X}_{it}, \boldsymbol{Y}_{it}, \boldsymbol{L}_{it}, \hat{\boldsymbol{\beta}})}{\partial z_{it}}, \forall z \in \boldsymbol{X}_{it}, \boldsymbol{Y}_{it}, \boldsymbol{L}_{it}, \tag{11}$$

where $\hat{\boldsymbol{\beta}}$ denotes the estimated parameters of the particular model and we calculate the standard errors associated with these marginal effects.

4.2 Results for the Alternative Models of Widows' Living Arrangements

We present in Table 5, estimates of the marginal effects, and their standard errors, of the covariates entering the various specification of our multinomial probit model of widows' living arrangement choices for four alternative models. There are four Panels to Table 4, Panel A for the Living Alone arrangement, Panel B for the Living with Others arrangement, Panel C for the Living with Kids arrangement and Panel C for the Living in a Nursing Home arrangement. Below, we first report on the results for the two baseline models, *Baseline Model I* and *Baseline Model II*. We then turn to the results for the specification that includes widows' cumulative history of living arrangements as additional covariates, *Baseline Model II plus Cumulative Living Arrangements*, as well as the specification that allows for unobserved heterogeneity, *Baseline Model II plus Cumulative Living Arrangements & Factor Structure.*

4.2.1 Results for Baseline Models

We begin with the results for the Living Alone choice in Panel A of Table 5. In the two most basic specifications in column one and two we see strong effects by race with blacks being about 15 percent less likely to live alone. The effect of age is nonlinear with both the oldest and the youngest age groups are less likely to live alone – the youngest likely because their children have not yet "left the nest" and the oldest because of their own need for assistance. Those who were never married at 58 are less likely to live

alone relative to those who were married at 58. In general, socio-economic characteristics suggest those with higher socio-economic status are more likely to live alone. Those with some college are about 3 percent more likely to live alone than those without a high school degree. To avoid the issue of taking the log of negative or zero wealth, we include a separate dummy variable for these groups and set the long wealth variable to zero Those with negative or zero wealth are 20 percent less likely to live alone, but, given that wealth is positive, an increase in dynastic wealth by 10 percent decreases the probability of living alone by 0.2 percent. Income has a positive but insignificant effect on living alone. The median income of children also has a positive effect on living alone, perhaps representing the intergenerational correlation of income, that the children are able to help the parent financially if need be, that the children are able to work without being burdened by care for an elderly parent, or that the children are well-off enough to establish independent households. Having an unmarried child makes a widow less likely to live alone. Widows in poor health and those with disabled children are also less likely to live alone.

Panel B of Table 5 displays the marginal effects for the living with others choice. One of the strongest predictors of this living arrangement is race: blacks are 6 percent more likely to live with others than are whites. Recall that many of these "other" individuals are grandchildren. Hence the number of grandchildren is positively related to living with others. But the effect is small. Each grandchild increases the probability of this form of living arrangement by just 0.7 percent. Having an unmarried daughter is positively related to living with others, likely the kids of the unmarried daughter.

Panel C of Table 5 displays the marginal effects for the living with children choice. As with living with others, race has a significant effect on living with kids. Being black increases the probability of living with kids by 9 percent. The age effects are the opposite of those living alone with the youngest and oldest widows being the most likely to live with children. Having an unmarried child increases this probability. Socio economic characteristics such as income, education and wealth suggest that less well-educated, widows with lower incomes are more likely to live with kids. Having negative or zero average dynastic wealth increases the probability of living with kids by almost 30 percent. However, conditional on having dynastic wealth, at increase in wealth by 10 percent increases the probability of living with kids

by 0.2 percent. These wealth effects accord with Tables 3 and 4 which summarizes income quartiles by living arrangements. As noted before, there are widows in each income quartile who live with kids. With respect to children's income, the higher median income of children, the lower the probability of living with a child, suggesting that higher income children can either help support parental independence or benefit themselves for parental independence. In either case, however, causality cannot be inferred. Having a disabled child increases the probability of living with kids by 6 percent. Being never married at 58 increases the probability of living with kids.

Finally, Panel D of Table 5 presents the marginal effects for the living in a nursing home choice. Being old, disabled, or in poor health are strong predictors of living in a nursing home. The socio- economic characteristics of wealth and income suggest that poorer widows are more likely to use a nursing home. However, conditional on having dynastic wealth, more wealth increases the probability of nursing home use. Causality is difficult to infer. Those with zero wealth may have spent down their assets while living in a nursing home or they may have had very little wealth to begin with and were thus eligible for Medicaid. Having an unmarried daughter makes nursing home use less likely though having an unmarried son does not seem to affect nursing home use, supporting the notion that care-giving is often provided by an unmarried daughter.

The state Medicaid variables suggest that living in a state with a spend-down provision is associated with a 7 percent reduction in the probability of with kids. But, given that the state has an income test for Medicaid, having a higher threshold lowers the probability of living in a nursing home and raises the probability of living alone. These effects are not particularly robust. This is consistent with Grabowski and Gruber who find that state variables on nursing home provision have very small and mostly "wrong signed" effects on the probability of using a nursing home.

The difficulty with interpreting effects of current economic status on widows' living arrangements presented in columns one and two of the estimates in Table 5 – and in found in much of the past literature – is that the current status is likely to be endogenously determined. For example, one might expect that widows with higher current income are more likely to be observed to live independently. How-

ever, the causal effect of widow's current income on her living arrangements is less clear cut. An older woman may live with a child because she cannot afford to live alone, or she many have retired early and have lower income because she knew she would eventually be co-residing with an offspring. Similarly, public assistance programs often consider living arrangements when determining benefits so there is a programmatic relationship between income and living arrangements.

Several studies to date have used differences across time and across states in public transfer programs to get around the endogeneity (Costa, 1999; McGarry and Schoeni, 2000; Gruber et al., 2005). Here we take a different approach. We estimate a model in which the living arrangements of the widow in our sample are estimated jointly with their income and the income of their children and these equations are linked with a factor structure that controls for unobserved time invariant heterogeneity. For example, if women who have a unobserved preference for living with their kids tend to earn lower income because they think their kids will take care of them, or have kids with lower income who assume that their mother will help them with household expenses through co-residence then we would expect that the effect of current income to be smaller once we control for the unobserved heterogeneity through the factor structure. The factor structure does not control for the endogeneity induced by the programmatic relationship between income and living arrangements. In future versions of the paper we will also allow for contemporaneous correlation among the equations for income, kids income and living arrangements to control for this source of endogeneity.

4.2.2 Results for Specifications including Cumulative History of Living Arrangements and Controls for Unobserved Heterogeneity

We now turn to the results for the *Baseline Model II plus Cumulative Living Arrangements* and *Baseline Model II plus Cumulative Living Arrangements & Factor Structure* results presented in the final two columns of the four Panels of Table 5. The smallest changes between the more simple specifications described in section 4.2.1 and those adding the cumulative experience variables and factor structure are in Panels B and D of Table 5 showing the marginal effects for living with others and in a nursing home respectively. With respect to living with others, controlling for cumulative experience reduces the effect of

race by about half so that being black increase the probability of living with others by about 3 percent. Adding the cumulative experience variables eliminates the age effects, although the age effects were never particularly strong and indicated that women over age 80 were less likely to live with others. More years of living with others as both a married and an unmarried woman increases the probability of living with others currently while more years of living alone while unmarried reduces this probability. The results are not very different for the specifications with and without the factor suggesting that unobserved non-time varying heterogeneity is not driving the results in the more simple specifications.

Turning to the results for the living a nursing home choice in Panel D of Table 5, we find that controlling for the cumulative experience in each living arrangement reduces the size of the coefficient of being black and eliminates the age effects. Having lived in a nursing home increases the probability of being in a nursing home by 3 percent. Its effect is the same size as the effect of being disabled and larger than the effect of being in poor health. Because we know that most of the women who live in a nursing home are over 75, the cumulative experience variables may be difficult to separate from the age effects. The coefficient on age remains about the same but with a much larger standard error when we add cumulative experience variables. Adding the factor structure does not substantively change the results again suggesting that unobserved time invariant heterogeneity may not be that important in examining nursing home use.

The largest changes between the more simple specifications and those that control for cumulative living arrangements and add a factor structure are in Panels A and C of Table 5 which show the marginal effects for living alone and with kids respectively. Panel A shows the marginal effects of covariates for those living alone. As with living in a nursing home and living with others, adding the cumulative variables reduces the size of the coefficient on race so that blacks are only about 5 percent less likely to live alone than whites as compared to almost 15 percent in the first two specifications. The effects of age get bigger, especially at the oldest ages. Adding the cumulative variables implies that women over the age of 80 are approximately 20 percent less likely to live alone than women between 65 and 69. This may reflect the changes in the marginal effects of living with others and in a nursing home in which the age effects

disappear after controlling for cumulative experience. Controlling for cumulative experience decreases the size of the wealth effect of positive wealth and the effect of having negative wealth. Having negative wealth decreases the probability of living alone by about 15 percent as compared to over 20 percent in specifications that do not control for cumulative living experience. The variables on marital status at 58 all get smaller when we add the cumulative living arrangements. Being never married at age 58 only reduces the probability of living alone by about 10 percent compared to being married at 58 while in specifications that do not control for cumulative living experiences this effect is almost twice as large. The cumulative experience variables imply that every additional year of living alone when unmarried increases the probability of living alone by 4 percent while living alone when married only increases the probability of living alone by 1.5 percent. Living in other living arrangements decreases this probability.

Adding the factor structure to control for unobserved time invariant heterogeneity changes some variables while leaving others largely unchanged. Education, race and age do not change substantially but variables describing the woman's marital status at 58 all become larger. Being a widow at 58 reduces the probability of living alone by almost 5 percent compared to those who are married at 58. This is significant only in the specification with the factor structure. Being never marred at 58 becomes more important and reduces the probability of living alone by 25 percent. The effect of children's income also becomes larger so that an increase in the median income of kids by 10 percent increases the probability of living alone by 1.1 percent. Having a disabled child is more important reducing the probability of living alone by 6 percent. The marginal effect of wealth becomes smaller and insignificant, whereas in previous specifications it had a large effect. These results suggest that controlling for unobserved heterogeneity is important especially when we think about the influence of wealth. Those families with higher wealth may also value independence more and so controlling for this unobserved factor decreases the importance of wealth on determining living arrangements. The same does not seem to be true for the income of kids. We would like to control for the contemporaneous correlation between living arrangements and kids income before inferring too much about the influence of the income of kids on the living arrangements of their elderly mothers.

The last two columns in Panel C of Table 5 show the marginal effects of living with kids in the specifications with cumulative living arrangements and a factor structure. Adding the cumulative variables decreases the size of the marginal effect of race by about 60 percent and makes the age effects larger and more significant. Women over 80 are 20 percent more likely to live with kids than their counterparts who are between 65 and 69. The cumulative effects are significant with each additional year of living with kids increasing the probability of current co-residence by 3 percent.

As with the marginal effects of living alone, adding the factor structure increases the size of the variables describing the marital status of the individual at 58. Those who are never married at 58 are 35 percent more likely to live with their kids than those who are married at 58 as compared with about 15 percent in other specifications. The effect of race becomes insignificant. The effect of having a disabled child increases from 4.5 percent to 9 percent when we control for unobserved heterogeneity. The marginal effect of widow's income and wealth become smaller when we control for unobserved heterogeneity. This may suggest that unobserved characteristics that decrease a widow's income or wealth and may increase her probability of living with her children and that without controlling for these unobserved factors we may overstate the effect of income and wealth on living arrangements.

5. Conclusion and Directions for Future Work

We have attempted to demonstrate the potential for the PSID to be informative about family living arrangements. Although our empirical work has just scratched the surface of what is possible, we hope we have inspired interested readers to look further into the possible exploitation of nearly 40 years of data on living arrangements of parents and children available in the PSID.

Our results indicate that past living arrangements are important in determining current living arrangements and using a long panel like the PSID allows us to control for these past experiences. We also find evidence that controlling for individual heterogeneity is important, especially when drawing conclusions about the impact of financial variables like income and wealth on living arrangements. In future versions of the paper we will control for contemporaneous correlation in income and living arrangements

which will improve our ability to determine causality.

We anticipate, eventually drawing on the geocoded data in the PSID to examine living arrangements that likely involve some physical or emotional support but that fall short of co-residence. We will look at moves that are made that involve living closer to a child, grandchild, sibling or parent and assess how these transitions relate to other types of living arrangements.

We believe that these analyses provide new information that will begin to help economists find answers to patterns of familial behavior and help policy makers who must make decisions about how social insurance and welfare programs, such as Medicare and Medicaid, might best be structured to ensure the well-being of the elderly without crowding out support from family members. The aging of the population, needed changes in Social Security, Medicare, and Medicaid programs, and changes in the labor force behavior of daughters all indicate that these issues are becoming increasingly important both in the United States and throughout the developed world.

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Figure 1. Distribution of Elderly Unmarried Women Ever Lived in Arrangement by Age

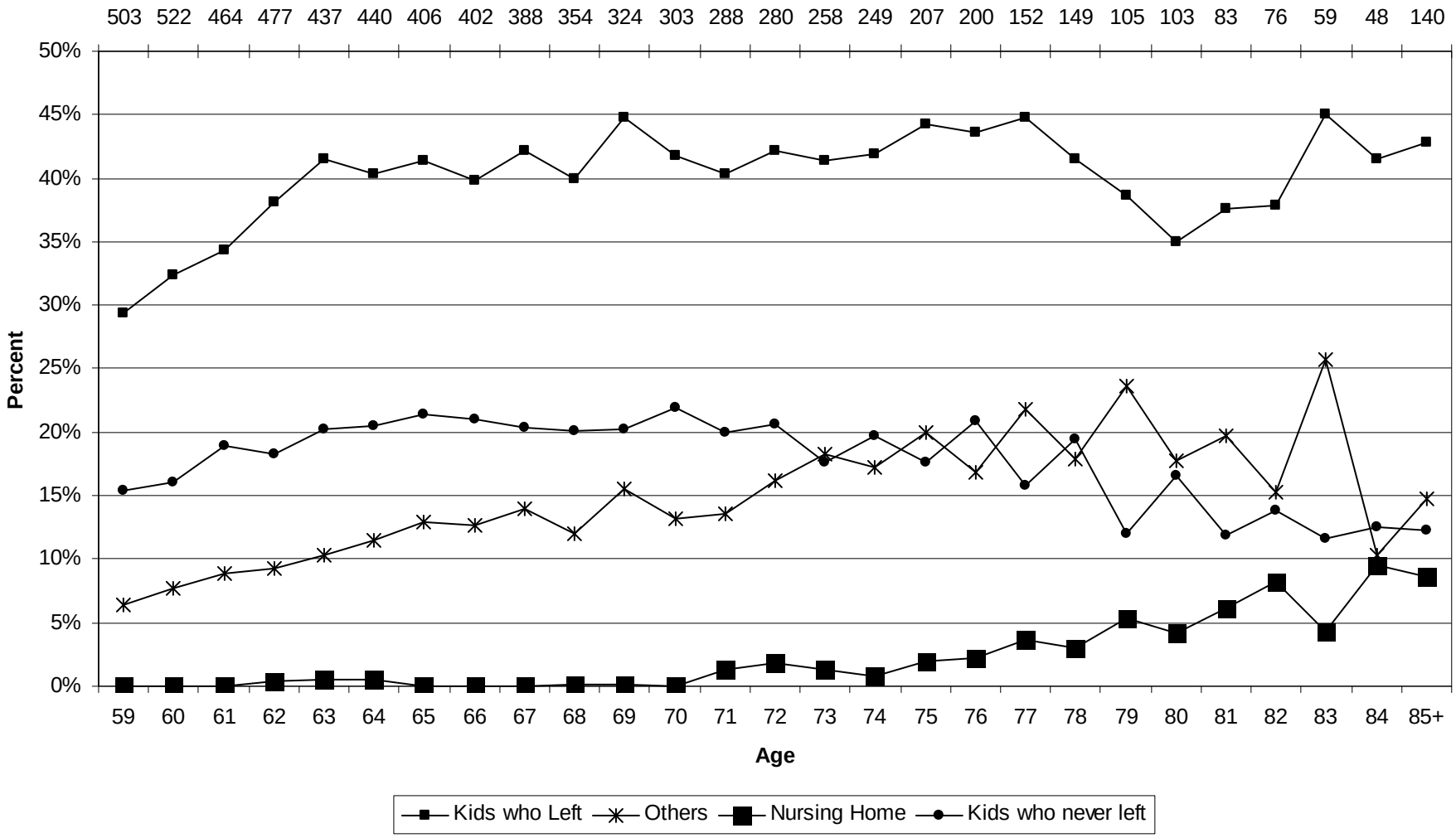

Figure 2. Distribution of Current Living Arrangements

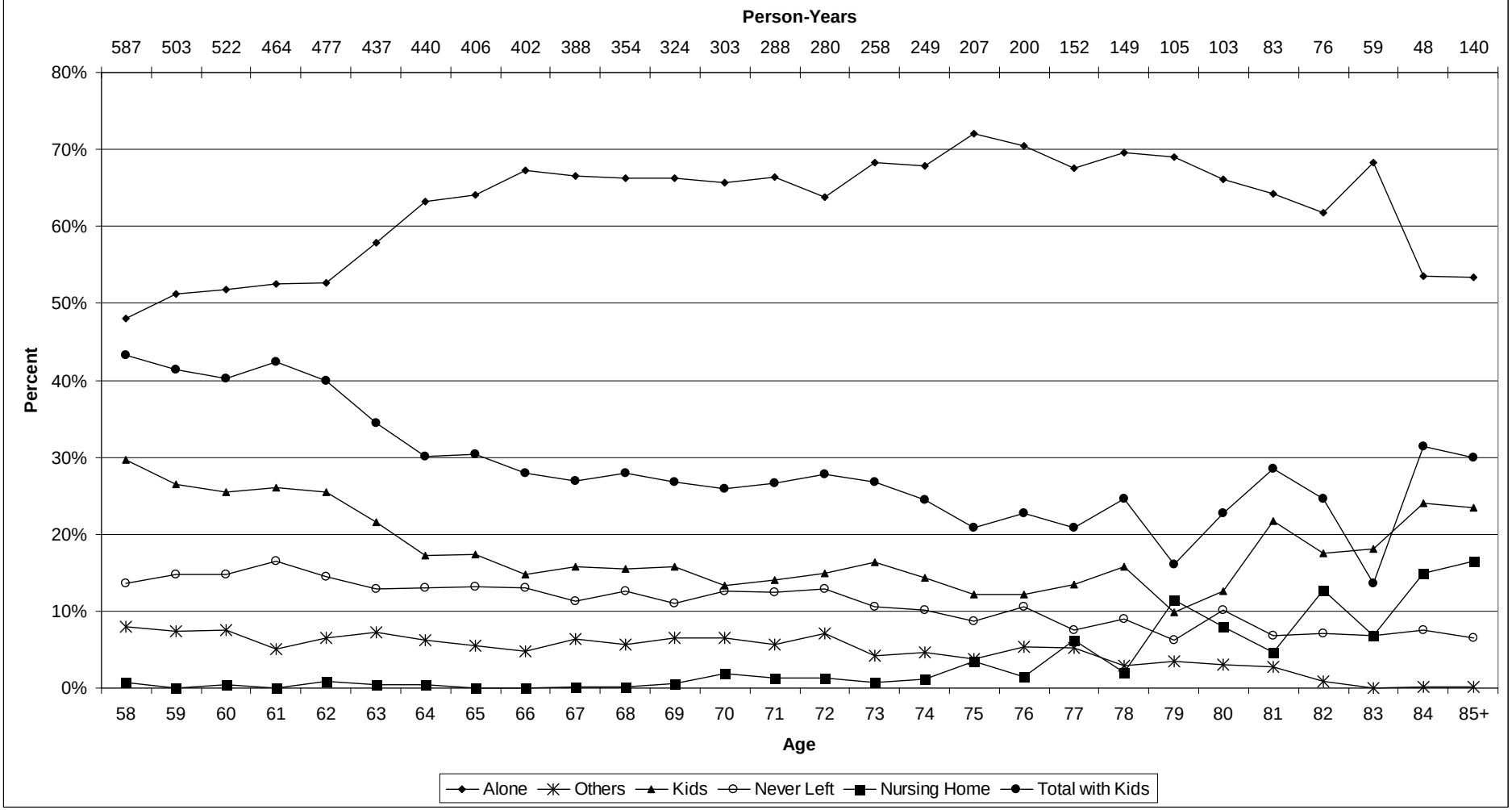

Table 1: Distribution of Number of Person-Years in Sample by Age and Year of the PSID Interview

Year of Interview	Age																											Total
	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85+	
1968																													
1969	15	8																											23
1970	17	15	7																										39
1971	8	16	15	9																									48
1972	22	8	16	15	9																								70
1973	17	21	8	16	14	9																							85
1974	20	17	21	8	16	12	9																						77
1975	24	19	17	21	8	16	12	9																					126
1976	24	23	18	18	21	8	16	12	9																				149
1977	16	23	23	18	18	21	8	16	12	10																			165
1978	31	16	23	22	18	18	20	8	16	12	10																		194
1979	32	31	16	25	23	16	19	19	8	15	12	9																	225
1980	44	32	31	16	24	23	16	18	20	8	15	11	9																267
1981	31	44	31	31	16	22	23	14	18	19	8	15	11	9															292
1982	32	31	43	30	32	16	22	23	14	17	18	8	14	11	9														320
1983	41	33	30	43	32	32	16	22	23	14	17	18	8	14	11	9													363
1984	26	40	33	27	42	32	30	16	22	21	13	18	18	9	15	7	9												378
1985	44	26	38	33	27	42	30	28	15	21	20	13	18	18	8	16	6	9											412
1986	38	43	25	36	32	27	38	30	26	15	21	19	15	16	18	8	14	6	7										434
1987	52	38	41	24	35	31	26	38	30	25	14	21	18	15	16	18	7	12	6	8									475
1988	36	50	37	41	23	35	31	26	37	30	26	13	21	19	15	14	17	7	11	5	7								501
1989	25	35	47	36	41	23	35	30	25	38	30	25	11	20	20	15	13	17	6	10	5	5							512
1990	44	24	34	47	37	40	23	35	30	23	37	30	24	11	19	20	13	13	16	6	10	5	4						545
1991	42	42	24	34	43	37	40	22	35	29	23	36	30	24	11	18	19	13	12	16	5	8	5	4					572
1992	30	41	42	23	32	42	37	39	22	35	28	23	33	27	25	12	18	19	13	12	16	5	6	6	4				590
1993	34	29	37	41	22	28	41	35	39	21	32	27	21	34	26	24	12	18	19	13	10	15	4	7	6	4			599
1994	24	31	26	28	35	22	27	41	36	38	21	32	26	23	32	27	24	11	17	17	12	9	13	3	6	9	3		593
1995	27	23	28	26	28	35	21	27	40	35	37	18	30	25	22	32	26	24	10	15	15	12	9	11	3	6	10	3	598
1996	31	24	23	29	26	27	35	21	27	40	32	37	17	29	26	21	31	25	22	10	15	14	12	9	11	3	6	11	614
1997	19	21	14	12	18	12	15	23	15	16	31	25	23	9	19	18	17	22	22	11	8	11	10	11	5	7	3	14	431
~~1998~~																													
1999	19	0	21	21	13	12	18	11	14	23	14	15	30	24	23	9	19	13	17	21	21	9	7	9	10	8	5	18	424
~~2000~~																													
2001	8	0	19	0	20	21	13	12	16	12	14	22	14	13	29	21	20	8	18	13	16	19	17	8	5	5	6	26	395
~~2002~~																													
2003	20	0	8	0	17	0	20	18	13	12	16	10	14	21	13	13	25	19	18	8	17	12	16	16	14	8	3	33	384
~~2004~~																													
2005	18	0	19	0	8	0	15	0	18	18	12	11	16	10	12	21	13	12	24	17	16	5	15	11	16	14	13	36	370
Total	911	804	815	730	730	659	656	593	580	547	501	456	421	381	369	323	303	248	238	182	173	129	118	95	80	64	49	141	11,296

Table 2. Means for Person Years when Unmarried by Widow's Living Arrangement

				Living with Kids	
	Living Alone	**Living with Others**	**Living in Nursing Home**	**Who Left Home**	**Never Left Home**
N = 8,004	3849	612	113	2055	1375
Proportion	61.57	5.57	2.00	18.88	11.98
Age	68.90	66.29***	78.78***	67.08**	66.92**
	(.403)	(.609)	(1.23)	(.544)	(.756)
Black	0.07	0.259***	0.04*	0.258***	0.257***
	(.013)	(.042)	(.022)	(.039)	(.057)
Educ less than high school	0.316	0.438	0.376	0.377	0.498**
	(.032)	(.079)	(.107)	(.035)	(.067)
Educ high school	0.414	0.324	0.338	0.432	0.336
	(.032)	(.062)	(.108)	(.042)	(.061)
Educ more than high school	0.268	0.238	0.286	0.19*	0.164
	(.023)	(.053)	(.085)	(.035)	(.060)
Number of Grandkids	3.58	4.51*	3.68	3.65	3.55
	(.161)	(.481)	(.589)	(.271)	(.641)
Number of Children	3.52	3.55	3.03	4.28***	4.8***
	(.117)	(.261)	(.367)	(.205)	(.369)
Number of Daughters	1.65	1.81	1.46	2.03**	2.20**
	(.100)	(.163)	(.198)	(0.118)	(.244)
Unmarried Daughter	.280	.399*	.133***	0.607***	.495**
	(.029)	(.053)	(.059)	(.039)	(.075)
Unmarried Child	.431	.489	.252***	.848***	.970***
	(.025)	(.052)	(.073)	(.028)	(.013)
Child never in survey	0.449	0.348*	0.466	0.405	0.522
	(.039)	(.056)	(.098)	(.036)	(.073)
Years Married Prior to Age 58	29.75	29.81	27.40	28.92	29.19
	(.604)	(1.36)	(2.32)	(.790)	(1.03)
Marital History Missing	0.030	0.045	0.003**	0.088**	0.136**
	(.012)	(.020)	(.003)	(.021)	(.035)
Married at 58	0.353	0.453	0.444	0.369	0.291
	(.028)	(.074)	(.078)	(.045)	(.064)
Widowed at 58	0.373	0.338	0.384	0.345	0.546**
	(.027)	(.072)	(.091)	(.049)	(.069)
Divorced at 58	0.271	0.191	0.170	0.266	0.15*
	(.031)	(.048)	(.068)	(.035)	(.055)
Never married at 58	0.002	0.017*		0.018**	0.011***
	(.0009)	(.007)		(.007)	(.003)
Income (1000s)	24.40	18.74***	17.84***	19.83***	19.40**
	(1.23)	(1.61)	(2.94)	(1.09)	(2.03)
Median kids income (1000s)	68.59	51.29***	75.28	34.91***	39.88***
	(3.01)	(3.51)	(10.11)	(19.25)	(5.13)
Average Dynasty Wealth (10000s)	19.20	13.90**	20.98	14.15**	19.50
	(1.53)	(2.18)	(4.25)	(1.77)	(4.79)

Table 2. (Continued)

				Living with Kids	
	Living Alone	**Living with Others**	**Living in Nursing Home**	**Who Left Home**	**Never Left Home**
Wealth zero or negative	0.025	0.038	0.038	0.081***	0.095**
	(.004)	(.018)	(.024)	(.017)	(.032)
Disabled	0.04	0.079*	0.295***	0.077***	0.089*
	(.006)	(.021)	(.050)	(.008)	(.029)
Disabled Child	0.06	0.087	0.054	0.155***	0.156*
	(.010)	(.027)	(.029)	(.019)	(.050)
Poor Health	0.321	0.486***	0.752***	0.395	0.43
	(.027)	(.046)	(.048)	(.035)	(.062)
Born prior to 1920	0.395	0.274**	0.667***	0.393	0.481
	(.034)	(.055)	(.091)	(.041)	(.076)
Born between 1920 and 1930	0.455	0.636	0.277**	0.415	0.403
	(.031)	(.056)	(.088)	(.040)	(.068)
Born after 1930	0.148	0.188	0.054***	0.191	0.115
	(.019)	(.034)	(.026)	(.023)	(.039)
State has spend down provision	0.723	0.714	0.788	0.743	0.777
	(.044)	(.052)	(.090)	(.031)	(.051)
State Income test	1533.00	1521.00	1590.00	1574.00	1590.00
	(74.63)	(92.29)	(157.43)	(43.73)	(60.65)
Medicaid reimbursement rate	98.61	88.51***	108.00**	94.42	94.78
	(2.47)	(2.84)	(5.24)	(1.44)	(3.45)
State Employment Rate	0.555	0.545	0.590***	0.538**	0.544
	(.003)	(.005)	(.009)	(.004)	(.007)
State Average Wage	15.18	14.69	15.41	15.15	15.64
	(.247)	(.310)	(.473)	(.208)	(.393)

NOTES: Standard errors of means in parentheses. Test performed is if mean of a variable for a particular living arrangement is different from the mean of the variable for the living alone category. ***significant at 1%; **significant at 5%; *significant at 10%

Table 3. Percent in each living arrangement in each income quartile by race

Income Quartile	Living Alone	Living with Others	Living in Nursing Home	Living with Kids: Who Left Home	Living with Kids: Never Left Home	Total
Panel A. Whites after 1984						
1	0.128	0.175	0.245	0.226	0.242	0.159
2	0.254	0.300	0.372	0.254	0.321	0.266
3	0.338	0.376	0.169	0.303	0.168	0.316
4	0.278	0.148	0.213	0.215	0.267	0.260
Panel B. Blacks after 1984						
1	0.438	0.294	0.741	0.391	0.446	0.412
2	0.229	0.315	0.201	0.281	0.217	0.253
3	0.217	0.364	0.057	0.225	0.229	0.236
4	0.114	0.035	0.000	0.101	0.105	0.100

Table 4. Percent in each income quartile in each living arrangement by race

Income Quartile	Living Alone	Living with Others	Living in Nursing Home	Living with Kids: Who Left Home	Living with Kids: Never Left Home
Panel A. Whites after 1984					
1	0.554	0.054	0.041	0.212	0.137
2	0.654	0.056	0.037	0.142	0.109
3	0.735	0.059	0.014	0.142	0.048
4	0.733	0.028	0.022	0.123	0.092
Total	0.684	0.049	0.026	0.148	0.090
Panel B. Blacks after 1984					
1	0.367	0.064	0.012	0.332	0.222
2	0.313	0.116	0.005	0.387	0.176
3	0.319	0.144	0.001	0.334	0.200
4	0.395	0.033	0.000	0.353	0.217
Total	0.345	0.093	0.007	0.348	0.205

Table 5: Marginal Effects from Widow Living Arrangements Multinomial Probit

Panel A: Marginal Effects for Living Alone[1]

	Simple Model		Model with State Variables		Model with State & Cumulative Experience Variables		Model with State & Cumulative Experience Variables & Factor Structure	
	Marginal Effect	***Standard Error***	***Marginal Effect***	***Standard Error***	***Marginal Effect***	***Standard Error***	***Marginal Effect***	***Standard Error***
Black	-0.1501	0.0147	-0.1424	0.0149	-0.0569	0.0183	-0.0420	0.0186
Age 58-65	-0.0537	0.0181	-0.0473	0.0182	-0.0773	0.0259	-0.0752	0.0262
Age 65-69								
Age 70-79	-0.0079	0.0204	-0.0087	0.0205	-0.0448	0.0273	-0.0307	0.0270
Age 80+	-0.0533	0.0350	-0.0409	0.0353	-0.2323	0.0555	-0.1831	0.0576
Educ less than High School								
Educ High School	-0.0120	0.0155	-0.0163	0.0156	-0.0070	0.0183	-0.0267	0.0184
Educ more than High School	0.0432	0.0192	0.0354	0.0193	0.0542	0.0227	0.0472	0.0217
Number of Grandkids	0.0051	0.0019	0.0060	0.0019	0.0040	0.0022	0.0113	0.0023
Number of Children	-0.0202	0.0044	-0.0196	0.0044	-0.0040	0.0053	-0.0214	0.0055
Number of Daughters	0.0026	0.0064	0.0015	0.0065	0.0013	0.0076	-0.0091	0.0077
Unmarried Daughter	-0.0039	0.0184	-0.0020	0.0185	-0.0071	0.0217	0.0015	0.0221
Unmarried Child	-0.2331	0.0175	-0.2367	0.0176	-0.1969	0.0210	-0.2173	0.0213
Child never in Survey	0.0960	0.0160	0.0988	0.0162	0.0404	0.0194	0.1172	0.0196
Years Married at 58	-0.0008	0.0008	-0.0008	0.0008	-0.0007	0.0009	-0.0058	0.0010
Marital History Missing	-0.1586	0.0322	-0.1640	0.0321	-0.0788	0.0412	-0.2304	0.0377
Married at 58								
Widowed at 58	-0.0162	0.0171	-0.0117	0.0171	-0.0015	0.0222	-0.0552	0.0223
Divorced at 58	0.0410	0.0196	0.0477	0.0196	0.0393	0.0242	0.0364	0.0241
Never Married at 58	-0.1714	0.0387	-0.1741	0.0387	-0.0976	0.0430	-0.2619	0.0513
Log Income	0.0038	0.0040	0.0033	0.0040	0.0026	0.0045	0.0012	0.0046
Log Median Income of Kids	0.0435	0.0045	0.0436	0.0045	0.0471	0.0054	0.1016	0.0069
Log of Average Dynastic Wealth	-0.0226	0.0051	-0.0221	0.0052	-0.0177	0.0061	-0.0026	0.0061
Dynastic Wealth Neg or Zero	-0.2418	0.0610	-0.2249	0.0614	-0.1541	0.0716	-0.0237	0.0655

Panel A: (Continued)

	Baseline Model I		Baseline Model II		Baseline Model II plus Cumulative Living Arrangements		Baseline Model II plus Cumulative Living Arrangements & Factor Structure	
	Marginal Effect	***Standard Error***	***Marginal Effect***	***Standard Error***	***Marginal Effect***	***Standard Error***	***Marginal Effect***	***Standard Error***
Disabled	-0.0088	0.0212	-0.0096	0.0213	-0.0097	0.0247	0.0127	0.0250
Disabled Child	-0.0361	0.0196	-0.0342	0.0197	-0.0201	0.0235	-0.0628	0.0238
Poor Health	-0.0343	0.0142	-0.0380	0.0142	-0.0244	0.0170	-0.0333	0.0173
Missing Health, disability	-0.0900	0.0207	-0.0857	0.0208	-0.0957	0.0247	-0.0766	0.0256
Born before 1920								
Born 1920-1929	0.0583	0.0195	0.0456	0.0198	0.0385	0.0257	0.0226	0.0250
Born after 1930	0.0512	0.0303	0.0355	0.0310	0.0509	0.0405	0.0445	0.0404
Year 1968-1984	0.0308	0.0292	0.0058	0.0298	0.0301	0.0325	0.0446	0.0328
Year 1985-1989								
Year 1990-1999	0.0386	0.0191	0.0238	0.0199	0.0021	0.0230	-0.0097	0.0233
Year 2000-2005	0.0113	0.0306	0.0290	0.0323	-0.0171	0.0368	-0.0527	0.0371
State has Spend Down Provision			0.1040	0.0300	0.0936	0.0323	0.0998	0.0329
State Income Test			3.4E-05	2.0E-05	3.6E-05	2.0E-05	2.3E-05	2.0E-05
Medicaid Reimbursement Rate			0.0007	0.0003	0.0004	0.0003	0.0005	0.0003
Employment Rate			-0.1003	0.0848	-0.0869	0.0968	0.0945	0.0953
Wage			-0.0018	0.0034	0.0009	0.0038	-0.0091	0.0039
Missing State Information			0.0674	0.0354	0.0549	0.0382	0.0624	0.0382
Cum. Yrs. Alone Unmarried					0.0430	0.0039	0.0373	0.0040
Cum. Yrs. Alone Married					0.0168	0.0043	0.0136	0.0044
Cum. Yrs. with Others Unmarried					-0.0137	0.0058	-0.0211	0.0059
Cum. Yrs. with Other Married					-0.0021	0.0072	0.0095	0.0074
Cum. Yrs. with Kids Unmarried					-0.0284	0.0042	-0.0211	0.0042
Cum. Yrs. with Kids Married					-0.0193	0.0059	-0.0117	0.0059
Cum. Yrs. with Kids who Never Left Unmarried					0.0380	0.0413	-0.0295	0.0377
Cum. Yrs. with Kids who Never Left Married					0.0526	0.0427	-0.0362	0.0381
Constant	0.2928	0.0750	0.2424	0.0991	0.2915	0.1676	0.1527	0.2672

[1]Unless otherwise indicated all variables characterize the widow's situation, i.e., "Disabled" is a measure of the widow's disability status.

Table 5: (Continued)

Panel B: Marginal Effects of Living with Others[1]

	Baseline Model I		**Baseline Model II**		**Baseline Model II plus Cumulative Living Arrangements**		**Baseline Model II plus Cumulative Living Arrangements & Factor Structure**	
	Marginal Effect	***Standard Error***	***Marginal Effect***	***Standard Error***	***Marginal Effect***	***Standard Error***	***Marginal Effect***	***Standard Error***
Black	0.0641	0.0105	0.0657	0.0109	0.0297	0.0106	0.0367	0.0112
Age 58-65	0.0164	0.0123	0.0151	0.0128	-0.0088	0.0186	-0.0064	0.0189
Age 65-69								
Age 70-79	-0.0135	0.0137	-0.0130	0.0142	-0.0050	0.0133	-0.0047	0.0138
Age 80+	-0.0531	0.0218	-0.0550	0.0228	-0.0179	0.0180	-0.0210	0.0182
Educ less than High School								
Educ High School	-0.0111	0.0100	-0.0111	0.0104	-0.0137	0.0103	-0.0130	0.0108
Educ more than High School	0.0098	0.0125	0.0119	0.0129	-0.0006	0.0122	-0.0005	0.0129
Number of Grandkids	0.0074	0.0012	0.0078	0.0013	0.0052	0.0012	0.0070	0.0013
Number of Children	-0.0045	0.0030	-0.0050	0.0031	-0.0060	0.0030	-0.0108	0.0032
Number of Daughters	0.0011	0.0042	0.0024	0.0044	0.0027	0.0042	0.0014	0.0045
Unmarried Daughter	0.0465	0.0138	0.0452	0.0142	0.0264	0.0137	0.0310	0.0144
Unmarried Child	-0.1077	0.0147	-0.1082	0.0150	-0.0772	0.0151	-0.0851	0.0159
Child never in Survey	0.0023	0.0110	0.0006	0.0114	0.0111	0.0109	0.0256	0.0114
Years Married at 58	0.0008	0.0005	0.0007	0.0006	-0.0001	0.0005	-0.0010	0.0006
Marital History Missing	0.0281	0.0265	0.0268	0.0271	0.0049	0.0240	-0.0257	0.0206
Married at 58								
Widowed at 58	-0.0152	0.0117	-0.0160	0.0120	-0.0203	0.0129	-0.0248	0.0138
Divorced at 58	-0.0245	0.0136	-0.0251	0.0141	-0.0275	0.0151	-0.0269	0.0158
Never Married at 58	0.0354	0.0346	0.0311	0.0358	-0.0224	0.0401	-0.0793	0.0493
Log Income	0.0030	0.0027	0.0030	0.0028	0.0025	0.0025	0.0025	0.0026
Log Median Income of Kids	-0.0002	0.0028	-0.0001	0.0029	0.0010	0.0028	0.0079	0.0041
Log of Average Dynastic Wealth	-0.0037	0.0034	-0.0027	0.0036	-0.0030	0.0033	-0.0010	0.0036
Dynastic Wealth Neg or Zero	-0.0715	0.0508	-0.0816	0.0519	-0.0812	0.0576	-0.0501	0.0521

Panel B: (Continued)

	Baseline Model I		Baseline Model II		Baseline Model II plus Cumulative Living Arrangements		Baseline Model II plus Cumulative Living Arrangements & Factor Structure	
	Marginal Effect	***Standard Error***	***Marginal Effect***	***Standard Error***	***Marginal Effect***	***Standard Error***	***Marginal Effect***	***Standard Error***
Disabled	-0.0269	0.0128	-0.0265	0.0134	-0.0030	0.0136	-0.0012	0.0146
Disabled Child	-0.0227	0.0123	-0.0238	0.0127	-0.0212	0.0118	-0.0321	0.0120
Poor Health	0.0117	0.0099	0.0148	0.0102	0.0047	0.0097	0.0059	0.0103
Missing Health, disability	0.0448	0.0157	0.0455	0.0162	0.0259	0.0155	0.0372	0.0167
Born before 1920								
Born 1920-1929	-0.0072	0.0140	-0.0041	0.0145	0.0008	0.0151	-0.0013	0.0155
Born after 1930	0.0246	0.0219	0.0284	0.0227	0.0237	0.0271	0.0225	0.0280
Year 1968-1984	-0.0260	0.0182	-0.0162	0.0197	-0.0061	0.0179	-0.0085	0.0186
Year 1985-1989								
Year 1990-1999	-0.0189	0.0128	-0.0151	0.0137	-0.0052	0.0130	-0.0111	0.0135
Year 2000-2005	-0.0200	0.0190	-0.0215	0.0206	-0.0269	0.0179	-0.0366	0.0178
State has Spend Down Provision			-0.0208	0.0215	-0.0257	0.0191	-0.0307	0.0201
State Income Test			-3.0E-05	1.0E-05	-2.0E-05	1.0E-05	-3.3E-05	1.0E-05
Medicaid Reimbursement Rate			-0.0003	0.0002	-0.0002	0.0002	-0.0002	0.0002
Employment Rate			0.1154	0.0554	0.0501	0.0523	0.0935	0.0535
Wage			-0.0045	0.0024	0.0009	0.0022	-0.0014	0.0023
Missing State Information			-0.0215	0.0230	-0.0204	0.0195	-0.0211	0.0205
Cum. Yrs. Alone Unmarried					-0.0109	0.0023	-0.0135	0.0025
Cum. Yrs. Alone Married					-0.0025	0.0026	-0.0031	0.0027
Cum. Yrs. with Others Unmarried					0.0283	0.0028	0.0300	0.0029
Cum. Yrs. with Other Married					0.0117	0.0035	0.0145	0.0037
Cum. Yrs. with Kids Unmarried					-0.0042	0.0024	-0.0030	0.0025
Cum. Yrs. with Kids Married					-0.0033	0.0034	-0.0006	0.0035
Cum. Yrs. with Kids who Never Left Unmarried					0.0073	0.0279	-0.0128	0.0331
Cum. Yrs. with Kids who Never Left Married					0.0129	0.0290	-0.0022	0.0335
Constant	-0.0402	0.0892	0.0051	0.0812	0.0641	0.0467	0.0730	0.0458

[1]Unless otherwise indicated all variables characterize the widow's situation, i.e., "Disabled" is a measure of the widow's disability status.

Table 5: (Continued)

Panel C: Marginal Effects of Living with Kids[1]

	Baseline Model I		**Baseline Model II**		**Baseline Model II plus Cumulative Living Arrangements**		**Baseline Model II plus Cumulative Living Arrangements & Factor Structure**	
	Marginal Effect	***Standard Error***	***Marginal Effect***	***Standard Error***	***Marginal Effect***	***Standard Error***	***Marginal Effect***	***Standard Error***
Black	0.0917	0.0147	0.0810	0.0149	0.0293	0.0183	0.0072	0.0184
Age 58-65	0.0392	0.0186	0.0338	0.0187	0.0860	0.0261	0.0818	0.0263
Age 65-69								
Age 70-79	0.0038	0.0192	0.0055	0.0192	0.0296	0.0257	0.0173	0.0247
Age 80+	0.0447	0.0314	0.0461	0.0315	0.2132	0.0439	0.1740	0.0430
Educ less than High School								
Educ High School	0.0232	0.0147	0.0272	0.0148	0.0197	0.0177	0.0381	0.0173
Educ more than High School	-0.0542	0.0179	-0.0496	0.0179	-0.0575	0.0215	-0.0512	0.0194
Number of Grandkids	-0.0123	0.0018	-0.0135	0.0019	-0.0086	0.0022	-0.0182	0.0022
Number of Children	0.0260	0.0043	0.0264	0.0043	0.0111	0.0053	0.0344	0.0053
Number of Daughters	-0.0042	0.0063	-0.0053	0.0063	-0.0053	0.0076	0.0063	0.0076
Unmarried Daughter	-0.0362	0.0173	-0.0366	0.0174	-0.0140	0.0210	-0.0253	0.0209
Unmarried Child	0.3416	0.0147	0.3454	0.0147	0.2775	0.0191	0.3045	0.0186
Child never in Survey	-0.0978	0.0160	-0.0990	0.0161	-0.0526	0.0196	-0.1470	0.0193
Years Married at 58	0.0003	0.0008	0.0003	0.0008	0.0010	0.0009	0.0072	0.0010
Marital History Missing	0.1370	0.0353	0.1428	0.0355	0.0809	0.0425	0.2660	0.0416
Married at 58								
Widowed at 58	0.0305	0.0167	0.0270	0.0168	0.0262	0.0220	0.0868	0.0211
Divorced at 58	-0.0162	0.0194	-0.0223	0.0195	-0.0075	0.0239	-0.0045	0.0226
Never Married at 58	0.1434	0.0455	0.1495	0.0459	0.1253	0.0538	0.3563	0.0511
Log Income	-0.0055	0.0038	-0.0051	0.0038	-0.0050	0.0044	-0.0031	0.0044
Log Median Income of Kids	-0.0442	0.0039	-0.0442	0.0040	-0.0488	0.0049	-0.1110	0.0063
Log of Average Dynastic Wealth	0.0242	0.0048	0.0232	0.0048	0.0187	0.0058	0.0005	0.0056
Dynastic Wealth Neg or Zero	0.3087	0.0496	0.3025	0.0506	0.2308	0.0693	0.0703	0.0742

Panel C: (Continued)

	Baseline Model I		Baseline Model II		Baseline Model II plus Cumulative Living Arrangements		Baseline Model II plus Cumulative Living Arrangements & Factor Structure	
	Marginal Effect	***Standard Error***	***Marginal Effect***	***Standard Error***	***Marginal Effect***	***Standard Error***	***Marginal Effect***	***Standard Error***
Disabled	0.0019	0.0204	0.0045	0.0205	-0.0229	0.0242	-0.0492	0.0235
Disabled Child	0.0654	0.0191	0.0636	0.0192	0.0457	0.0232	0.1000	0.0235
Poor Health	0.0054	0.0142	0.0079	0.0143	0.0040	0.0173	0.0115	0.0173
Missing Health, disability	0.0488	0.0218	0.0431	0.0219	0.0737	0.0262	0.0425	0.0266
Born before 1920								
Born 1920-1929	-0.0445	0.0195	-0.0354	0.0198	-0.0343	0.0257	-0.0145	0.0242
Born after 1930	-0.0512	0.0315	-0.0401	0.0319	-0.0581	0.0426	-0.0494	0.0418
Year 1968-1984	-0.0061	0.0284	0.0101	0.0292	-0.0252	0.0317	-0.0379	0.0316
Year 1985-1989								
Year 1990-1999	-0.0377	0.0190	-0.0251	0.0198	-0.0101	0.0230	0.0078	0.0230
Year 2000-2005	-0.0561	0.0298	-0.0545	0.0313	-0.0174	0.0373	0.0350	0.0381
State has Spend Down Provision			-0.0751	0.0299	-0.0569	0.0322	-0.0582	0.0326
State Income Test			8.6E-07	2.0E-05	-5.5E-06	2.0E-05	1.7E-05	2.0E-05
Medicaid Reimbursement Rate			-0.0004	0.0003	-0.0002	0.0003	-0.0003	0.0003
Employment Rate			-0.0307	0.0813	0.0118	0.0931	-0.2198	0.0905
Wage			0.0064	0.0035	-0.0016	0.0039	0.0110	0.0039
Missing State Information			-0.0453	0.0337	-0.0364	0.0370	-0.0421	0.0365
Cum. Yrs. Alone Unmarried					-0.0332	0.0040	-0.0248	0.0040
Cum. Yrs. Alone Married					-0.0145	0.0044	-0.0108	0.0044
Cum. Yrs. with Others Unmarried					-0.0142	0.0057	-0.0084	0.0057
Cum. Yrs. with Other Married					-0.0089	0.0073	-0.0241	0.0076
Cum. Yrs. with Kids Unmarried					0.0323	0.0040	0.0234	0.0040
Cum. Yrs. with Kids Married					0.0219	0.0057	0.0129	0.0056
Cum. Yrs. with Kids who Never Left Unmarried					-0.0491	0.0364	0.0412	0.0325
Cum. Yrs. with Kids who Never Left Married					-0.0662	0.0377	0.0375	0.0328
Constant	0.1107	0.1124	0.0894	0.1266	0.3325	0.0876	0.3735	0.0134

[1]Unless otherwise indicated all variables characterize the widow's situation, i.e., "Disabled" is a measure of the widow's disability status.

Table 5: (Continued)

Panel D: Marginal Effects of Living in a Nursing Home[1]

	Baseline Model I		**Baseline Model II**		**Baseline Model II plus Cumulative Living Arrangements**		**Baseline Model II plus Cumulative Living Arrangements & Factor Structure**	
	Marginal Effect	***Standard Error***	***Marginal Effect***	***Standard Error***	***Marginal Effect***	***Standard Error***	***Marginal Effect***	***Standard Error***
Black	-0.0057	0.0025	-0.0042	0.0022	-0.0021	0.0036	-0.0019	0.0036
Age 58-65	-0.0018	0.0017	-0.0016	0.0014	0.0001	0.0015	-0.0002	0.0014
Age 65-69								
Age 70-79	0.0176	0.0064	0.0163	0.0061	0.0202	0.0103	0.0182	0.0112
Age 80+	0.0617	0.0201	0.0498	0.0199	0.0370	0.0464	0.0300	0.0514
Educ less than High School								
Educ High School	0.0000	0.0028	0.0002	0.0024	0.0009	0.0036	0.0016	0.0036
Educ more than High School	0.0011	0.0035	0.0023	0.0031	0.0039	0.0046	0.0045	0.0045
Number of Grandkids	-0.0002	0.0004	-0.0003	0.0003	-0.0007	0.0005	-0.0001	0.0005
Number of Children	-0.0013	0.0008	-0.0018	0.0008	-0.0011	0.0011	-0.0022	0.0011
Number of Daughters	0.0005	0.0011	0.0013	0.0010	0.0013	0.0015	0.0014	0.0015
Unmarried Daughter	-0.0064	0.0030	-0.0066	0.0027	-0.0054	0.0042	-0.0073	0.0042
Unmarried Child	-0.0008	0.0027	-0.0005	0.0023	-0.0035	0.0040	-0.0021	0.0038
Child never in Survey	-0.0005	0.0026	-0.0004	0.0023	0.0011	0.0036	0.0043	0.0036
Years Married at 58	-0.0003	0.0001	-0.0002	0.0001	-0.0002	0.0002	-0.0003	0.0002
Marital History Missing	-0.0065	0.0031	-0.0056	0.0026	-0.0070	0.0046	-0.0098	0.0032
Married at 58								
Widowed at 58	0.0009	0.0025	0.0007	0.0021	-0.0045	0.0047	-0.0068	0.0053
Divorced at 58	-0.0004	0.0026	-0.0002	0.0023	-0.0044	0.0046	-0.0050	0.0050
Never Married at 58	-0.0073	0.0067	-0.0066	0.0062	-0.0053	0.0096	-0.0151	0.0149
Log Income	-0.0013	0.0006	-0.0011	0.0005	0.0000	0.0009	-0.0005	0.0009
Log Median Income of Kids	0.0009	0.0008	0.0008	0.0007	0.0007	0.0011	0.0015	0.0013
Log of Average Dynastic Wealth	0.0021	0.0010	0.0015	0.0009	0.0020	0.0014	0.0031	0.0015
Dynastic Wealth Neg or Zero	0.0046	0.0016	0.0039	0.0014	0.0045	0.0017	0.0034	0.0014

Panel D: (Continued)

	Baseline Model I		Baseline Model II		Baseline Model II plus Cumulative Living Arrangements		Baseline Model II plus Cumulative Living Arrangements & Factor Structure	
	Marginal Effect	***Standard Error***	***Marginal Effect***	***Standard Error***	***Marginal Effect***	***Standard Error***	***Marginal Effect***	***Standard Error***
Disabled	0.0339	0.0085	0.0317	0.0082	0.0357	0.0112	0.0377	0.0118
Disabled Child	-0.0066	0.0023	-0.0055	0.0020	-0.0044	0.0038	-0.0051	0.0037
Poor Health	0.0171	0.0035	0.0153	0.0033	0.0156	0.0043	0.0159	0.0043
Missing Health, disability	-0.0035	0.0028	-0.0029	0.0024	-0.0039	0.0036	-0.0031	0.0036
Born before 1920								
Born 1920-1929	-0.0066	0.0041	-0.0061	0.0037	-0.0049	0.0053	-0.0067	0.0054
Born after 1930	-0.0246	0.0108	-0.0239	0.0106	-0.0165	0.0121	-0.0176	0.0119
Year 1968-1984	0.0013	0.0061	0.0002	0.0053	0.0013	0.0073	0.0019	0.0073
Year 1985-1989								
Year 1990-1999	0.0180	0.0050	0.0164	0.0047	0.0131	0.0055	0.0129	0.0054
Year 2000-2005	0.0648	0.0223	0.0470	0.0193	0.0614	0.0262	0.0544	0.0243
State has Spend Down Provision			-0.0081	0.0067	-0.0109	0.0089	-0.0109	0.0089
State Income Test			-5.9E-06	0.0E+00	-6.7E-06	0.0E+00	-7.4E-06	0.0E+00
Medicaid Reimbursement Rate			1.5E-05	4.0E-05	4.4E-05	6.0E-05	4.0E-05	5.0E-05
Employment Rate			0.0155	0.0117	0.0251	0.0169	0.0317	0.0161
Wage			-0.0001	0.0005	-0.0002	0.0006	-0.0005	0.0006
Missing State Information			-0.0006	0.0061	0.0019	0.0095	0.0008	0.0088
Cum. Yrs. Alone Unmarried					0.0011	0.0006	0.0010	0.0006
Cum. Yrs. Alone Married					0.0002	0.0006	0.0002	0.0006
Cum. Yrs. with Others Unmarried					-0.0004	0.0010	-0.0005	0.0009
Cum. Yrs. with Other Married					-0.0007	0.0012	0.0001	0.0011
Cum. Yrs. with Kids Unmarried					0.0003	0.0007	0.0007	0.0006
Cum. Yrs. with Kids Married					0.0007	0.0008	-0.0007	0.0009
Cum. Yrs. in Nursing Home					0.0369	0.0076	0.0358	0.0078
Cum. Yrs. with Kids who Never Left Unmarried					0.0037	0.0045	0.0012	0.0052
Cum. Yrs. with Kids who Never left Married					0.0008	0.0046	0.0010	0.0050
Constant	-0.3633	0.2097	-0.3369	0.2300	-0.6880	0.2744	-0.5992	0.3047

[1]Unless otherwise indicated all variables characterize the widow's situation, i.e., "Disabled" is a measure of the widow's disability status.

Table A-1. Means for Person Years when Unmarried Age 58-65

				Living with Kids	
	Living Alone	**Living with Others**	**Living in Nursing Home**	**Who Left Home**	**Never Left Home**
N = 3,836	1588	335	8	1184	721
Proportion	54.89	6.72	0.40	23.86	14.13
Black	0.09	0.256***	0.014***	0.238***	0.273***
	(.014)	(.031)	(.015)	(.036)	(.049)
Educ less than high school	0.347	0.39	0.129	0.373*	0.465
	(.036)	(.095)	(.132)	(.040)	(.060)
Educ high school	0.374	0.398	0.589	0.412	0.357
	(.043)	(.093)	(.263)	(.052)	(.056)
Educ more than high school	0.277	0.211	0.28	0.214	0.177
	(.030)	(.051)	(.243)	(.040)	(.064)
Number of Grandkids	3.4	3.98	0.688	3.4	3.06
	(.183)	(.600)	(.671)	(.316)	(.507)
Number of Children	3.55	3.42	2.08*	4.44***	4.54***
	(.127)	(.373)	(.811)	(.217)	(.322)
Number of Daughters	1.72	1.80	1.29	2.12***	2.15**
	(.105)	(.186)	(.304)	(.127)	(.193)
Unmarried Daughter	.331	.376	.851***	.647***	.547***
	(.040)	(.059)	(.155)	(.049)	(.053)
Unmarried Child	.475	.429	.851**	.903***	.957***
	(.038)	(.065)	(.155)	(.023)	(.023)
Child never in survey	0.359	0.309	0.129	0.375	0.422
	(.039)	(.062)	(.132)	(.039)	(.070)
Years Married Prior to Age 58	27.54	26.87	25.05	26.25	27.18
	(.629)	(1.64)	(8.17)	(.978)	(1.07)
Marital History Missing	0.045	0.038		0.103	0.08
	(.017)	(.015)		(.026)	(.031)
Married at 58	0.163	0.18	0.460	0.229	0.203
	(.023)	(.071)	(.286)	(.043)	(.039)
Widowed at 58	0.464	0.472	0.129	0.408**	0.605**
	(.035)	(.087)	(.132)	(.052)	(.055)
Divorced at 58	0.367	0.323	0.410	0.333	0.174***
	(.034)	(.086)	(.263)	(.040)	(.051)
Never married at 58	0.004	0.024*		0.028**	0.016**
	(.002)	(.011)		(.012)	(.004)
Income (1000s)	24.90	19.62*	15.55***	21.50**	21.88
	(1.40)	(2.46)	(3.16)	(1.37)	(2.67)
Median income of kids (1000s)	55.07	51.11	35.10	31.65***	36.18***
	(1.96)	(3.59)	(1.19)	(1.91)	(3.38)
Average dynasty wealth (10000s)	15.55	12.02	12.76	15.73	14.63
	(1.53)	(2.18)	(8.91)	(3.83)	(2.71)
Wealth zero or negative	0.038	0.01**	0.014	0.11***	0.052
	(.008)	(.005)	(.015)	(.031)	(.019)

Table A-1. (Continued)

				Living with Kids	
	Living Alone	**Living with Others**	**Living in Nursing Home**	**Who Left Home**	**Never Left Home**
Disabled	0.067	0.103	0.57***	0.091	0.096
	(.012)	(.032)	(.183)	(.013)	(.030)
Disabled Child	0.062	0.048		0.13***	0.148*
	(.014)	(.018)		(.015)	(.046)
Poor Health	0.305	0.513***	0.87***	0.378	0.399
	(.038)	(.072)	(.132)	(.044)	(.051)
Born prior to 1920	0.231	0.141*		0.334*	0.358*
	(.026)	(.052)		(.045)	(.073)
Born between 1920 and 1930	0.492	0.569	0.460	0.373***	0.459
	(.034)	(.067)	(.286)	(.039)	(.063)
Born after 1930	0.275	0.289	0.539	0.292	0.182
	(.032)	(.055)	(.286)	(.032)	(.053)
State has spend down provision	0.731	0.658		0.759	0.745
	(.035)	(.072)		(.032)	(.059)
State Income test	1550.00	1561.00		1624.63	1624.00
	(55.67)	(99.08)		(32.80)	(68.10)
Medicaid reimbursement rate	92.38	80.98***	135.57**	88.29	89.27
	(3.04)	(3.50)	(19.52)	(2.31)	(2.95)
State Employment Rate	0.537	0.532	0.572	0.523*	0.524*
	(.003)	(.007)	(.027)	(.005)	(.007)
State Average Wage	15.09	14.00***	17.63***	15.21	15.30
	(.218)	(.317)	(0.987)	(.247)	(.356)

NOTES: Standard errors of means in parentheses. Test performed is if mean of a variable for a particular living arrangement is different from the mean of the variable for the living alone category. ***significant at 1%; **significant at 5%; *significant at 10%.

Table A-2. Means for Person Years when Unmarried Age 66-75

				Living with Kids	
	Living Alone	**Living with Others**	**Living in Nursing Home**	**Who Left Home**	**Never Left Home**
N = 3,053	1642	218	35	637	521
Proportion	66.96	5.65	0.95	14.86	11.59
Black	0.068	0.291***	0.115	0.255***	0.26***
	(.014)	(.081)	(.094)	(.055)	(.068)
Educ less than high school	0.315	0.487*	0.545	0.414	0.492*
	(.036)	(.091)	(.211)	(.061)	(.083)
Educ high school	0.43	0.232***	0.312	0.457	0.380
	(.034)	(.077)	(.017)	(.058)	(.077)
Educ more than high school	0.253	0.279	0.141	0.128**	0.127*
	(.026)	(.093)	(.101)	(.040)	(.063)
Number of Grandkids	3.79	5.37**	3.17*	4.63*	3.50
	(.190)	(.717)	(.312)	(.464)	(.671)
Number of Children	3.49	3.68	2.92	4.38***	4.81***
	(.126)	(.312)	(.450)	(.272)	(.375)
Number of Daughters	1.63	1.72	1.11***	2.02**	2.28**
	(.110)	(.232)	(.170)	(.170)	(.286)
Unmarried Daughter	.280	.409	.141***	.560***	.503**
	(.207)	(.089)	(.088)	(.056)	(.094)
Unmarried Child	.432	.546	.327	.833***	.981***
	(.028)	(.087)	(.178)	(.047)	(.008)
Child never in survey	0.440	0.350	0.522	0.444	0.587
	(.039)	(.091)	(.217)	(.055)	(.081)
Years Married Prior to Age 58	30.38	32.54	26.31	31.09**	30.45
	(.646)	(1.41)	(1.80)	(.978)	(1.08)
Marital History Missing	0.030	0.056	0.020	0.106*	0.178***
	(.011)	(.035)	(.019)	(.036)	(.050)
Married at 58	0.398	0.719***	0.283	0.422	0.337
	(.033)	(.071)	(.097)	(.056)	(.075)
Widowed at 58	0.347	0.21**	0.392	0.303	0.516*
	(.031)	(.065)	(.156)	(.066)	(.084)
Divorced at 58	0.252	0.067***	0.324	0.265	0.138
	(.034)	(.035)	(.194)	(.060)	(.066)
Never married at 58	0.001	0.011		0.009*	0.007**
	(.001)	(.008)		(.005)	(.001)
Income (1000s)	25.04	18.44***	12.81***	17.59***	17.21***
	(1.78)	(2.02)	(1.61)	(1.26)	(2.02)
Median income of kids (1000s)	71.50	52.40***	51.40***	39.23***	42.56***
	(3.94)	(6.42)	(6.68)	(2.89)	(6.77)
Average dynasty wealth (10000s)	19.43	13.48*	13.36***	10.78***	19.55
	(1.90)	(2.68)	(2.83)	(1.18)	(6.09)
Wealth zero or negative	0.021	0.075	0.026	0.067**	0.131**
	(.006)	(.040)	(.021)	(.020)	(.055)

Table A-2. (Continued)

				Living with Kids	
	Living Alone	**Living with Others**	**Living in Nursing Home**	**Who Left Home**	**Never Left Home**
Disabled	0.027	0.059	0.279***	0.056**	0.085
	(.005)	(.032)	(.067)	(.012)	(.036)
Disabled Child	0.055	0.141	0.053	0.18***	0.168*
	(.010)	(.053)	(.069)	(.032)	(.061)
Poor Health	0.340	0.415	0.813***	0.345	0.505*
	(.034)	(.059)	(.101)	(.039)	(.082)
Born prior to 1920	0.398	0.401	0.387	0.321	0.548*
	(.041)	(.099)	(.153)	(.058)	(.071)
Born between 1920 and 1930	0.494	0.491	0.556	0.556	0.384
	(.037)	(.094)	(0.065)	(.065)	(.074)
Born after 1930	0.107	0.106	0.056	0.121	0.067
	(.016)	(.029)	(0.049)	(.025)	(.030)
State has spend down provision	0.726	0.769	0.968***	0.738	0.787
	(.047)	(.073)	(.024)	(.051)	(.065)
State Income test	1556.00	1452.00	1619.00	1561.00	1587.00
	(82.39)	(121.85)	(112.35)	(44.23)	(79.58)
Medicaid reimbursement rate	98.94	93.05	101.13	97.09	93.82
	(3.05)	(3.89)	(7.10)	(2.59)	(3.16)
State Employment Rate	0.557	0.549	0.585**	0.552	0.556
	(.003)	(.006)	(.012)	(.005)	(.009)
State Average Wage	15.16	15.13	14.47*	15.09	15.77
	(.273)	(.395)	(.433)	(.261)	(.395)

NOTES: Standard errors of means in parentheses. Test performed is if mean of a variable for a particular living arrangement is different from the mean of the variable for the living alone category. ***significant at 1%; **significant at 5%; *significant at 10%.

Table A-3. Means for Person Years when Unmarried Age 76+

				Living with Kids	
	Living Alone	**Living with Others**	**Living in Nursing Home**	**Who Left Home**	**Never Left Home**
N = 1,115	619	59	70	234	133
Proportion	64.97	2.81	7.83	16.37	8.03
Black	0.04	0.141	0.023	0.327***	0.188*
	(.018)	(.080)	(.017)	(.085)	(.084)
Educ less than high school	0.26	0.479	0.358	0.316	0.653**
	(.041)	(.172)	(.103)	(.067)	(.157)
Educ high school	0.455	0.322	0.316	0.448	0.118***
	(.051)	(.125)	(.113)	(.093)	(.076)
Educ more than high school	0.284	0.197	0.325	0.235	0.228
	(.031)	(.115)	(.090)	(.079)	(.151)
Number of Grandkids	3.44	3.61	4.16	2.56	5.67
	(.323)	(.741)	(.730)	(.496)	(2.21)
Number of Children	3.53	3.71	3.17	3.60	5.74**
	(.179)	(.586)	(.452)	(.466)	(1.07)
Number of Daughters	1.56	2.22*	1.57	1.76	2.17
	(.142)	(.331)	(.250)	(.283)	(.537)
Unmarried Daughter	.169	.506*	.055**	.565***	.278
	(.029)	(.184)	(.037)	(.088)	(.126)
Unmarried Child	.333	.625**	.167***	.752***	.985***
	(.033)	(.137)	(.059)	(.091)	(.010)
Child never in survey	0.639	0.547**	0.489	0.422	0.711
	(.050)	(.165)	(.112)	(.069)	(.148)
Years Married Prior to Age 58	32.46	33.99	27.93*	32.96	34.54*
	(.691)	(3.40)	(2.72)	(1.09)	(.987)
Marital History Missing	0.023	0.042		0.002	0.227*
	(.014)	(.048)		(.001)	(.117)
Married at 58	0.605	0.793	0.483	0.687	0.55
	(.047)	(.106)	(.099)	(.061)	(.165)
Widowed at 58	0.259	0.201	0.411	0.236	0.367
	(.039)	(.106)	(.103)	(.062)	(.160)
Divorced at 58	0.135	0.005***	0.104	0.073	0.078
	(.038)	(.005)	(.057)	(.031)	(.062)
Never married at 58	0.00004			0.003	0.003
	(.00004)			(.003)	(.004)
Income (1000s)	22.39	15.47***	19.41	18.73	16.44**
	(1.51)	(2.12)	(2.67)	(2.32)	(1.97)
Median income of kids (1000s)	87.70	47.17***	85.59	37.06***	46.18***
	(9.42)	(7.88)	(1.27)	(5.61)	(1.19)
Average dynasty wealth (10000s)	24.00	23.75	23.89	17.04	31.12
	(2.55)	(7.30)	(4.99)	(3.44)	(8.66)
Wealth zero or negative	0.014	0.019	0.044	0.048	0.104
	(.008)	(.014)	(.032)	(.021)	(.066)

Table A-3. (Continued)

				Living with Kids	
	Living Alone	**Living with Others**	**Living in Nursing Home**	**Who Left Home**	**Never Left Home**
Disabled	0.017	0.038	0.269***	0.072**	0.072
	(.004)	(.047)	(.062)	(.021)	(.039)
Disabled Child	0.064	0.065	0.06	0.172*	0.152
	(.020)	(.043)	(.027)	(.054)	(.059)
Poor Health	0.305	0.633***	0.723***	0.521**	0.311
	(.036)	(.101)	(.058)	(.071)	(.092)
Born prior to 1920	0.698	0.439*	0.723	0.815	0.758
	(.038)	(.145)	(.068)	(.066)	(.099)
Born between 1920 and 1930	0.301	0.560*	0.184*	0.276	0.241
	(.038)	(.145)	(.066)	(.068)	(.099)
Born after 1930					
State has spend down provision	0.698	0.792	0.697	0.708	0.874*
	(.084)	(.104)	(.123)	(.093)	(.068)
State Income test	1456.00	1584.00	1588.00	1487.00	1310.00
	(160.24)	(153.42)	(162.73)	(137.19)	(127.04)
Medicaid reimbursement rate	109.50	115.18	106.95	106.08	117.16
	(3.12)	(10.96)	-6.27	(2.93)	(8.09)
State Employment Rate	0.577	0.594	0.593*	0.562	0.587
	(.007)	(.019)	(.011)	(.005)	(.010)
State Average Wage	15.41	16.44	15.41	15.07	16.63
	(.390)	(1.14)	(.592)	(.369)	(.702)

NOTES: Standard errors of means in parentheses. Test performed is if mean of a variable for a particular living arrangement is different from the mean of the variable for the living alone category. ***significant at 1%; **significant at 5%; *significant at 10%.