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Reassessing the Decline in Parent-Child Old-Age Coresidence During the 20th Century

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REASSESSING THE DECLINE IN PARENT-CHILD OLD-AGE CORESIDENCE DURING THE 20TH CENTURY

Abstract

The share of the elderly living with a child has decreased monotonically throughout the twentieth century, and this has been interpreted as a decline in the role of the family in providing old-age assistance. However, at the same time, the probability of reaching old age has increased dramatically. This note derives a measure that incorporates these two factors to determine whether the expected life years lived in old-age coresidence with a child has in fact decreased. The results imply that the role of the family in providing old-age support actually intensified over the first four decades of the 1900s, and then it began to fall through 1990.

REASSESSING THE DECLINE IN PARENT-CHILD OLD-AGE CORESIDENCE DURING THE 20TH CENTURY

It is well established that the share of the elderly who live with their children declined remarkably in the 20th century (Costa, 1996; Ruggles, 1996; Kramarow, 1995; Michael, Fuchs, Scott, 1980). At the turn of the century, 59 percent of elderly lived with a child (and not a spouse), while in 1980 the share was just 16 percent (Ruggles, 1996).[1] This decline has been interpreted as a diminished role of the family in providing assistance to the elderly, although the exact cause of the decline (e.g., changes in economic status, kin availability, health status, or cultural values) is still disputed. (See Ruggles (1996) and Kramarow (1995) for recent reviews.)

However, at the same time that coresidence declined, mortality improved substantially. Life expectancy (of women) increased from 49 years to 79 years between 1900 and 1990. As a result, while the probability that the elderly live with children declined, the probability of becoming elderly and the number of years lived in old age increased. Therefore, the expected number of years lived in old-age coresidence with an adult child, which is a function of both the probability of living until old age and the probability of living with an adult child conditional on survival until old age, may not have declined during the century. It may be that the improvements in life expectancy completely offset the declines in shared residence.

In this note, we propose a measure of the extent to which elderly parents and adult children share housing that captures both the change in living arrangements and the change in mortality during the past century. Specifically, using census data on coresidence and cohort life tables from 1900, 1940, and 1990, we calculate the number of life years lived in coresidence, while age 65 or older, with an adult child.

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[1]Note that Macunovich et al (1995) report that this trend has reversed slightly for young elderly widows, and they predict that the reversal may continue into the next decade due to changes in the availability of kin.

Expected Life Years Lived in Old-Age Coresidence

The proposed measure is the number of life years expected to live after age 65 in coresidence with at least one adult child (age 18 or older) under the assumption of period-specific rates of coresidence and mortality. The measure is evaluated for each age as:

$$e_x^{coresidence} = \frac{\sum_{a=65}^{119} L_a * P_a}{l_x} \quad if\ x \leq 65$$

$$e_x^{coresidence} = \frac{\sum_{a=x}^{119} L_a * P_a}{l_x} \quad if\ x > 65$$

where l_x is the number of survivors of the stationery population life table birth cohort at exact age x, and L_x is the number of person years lived between consecutive exact integral ages. P_x is the probability, at age x, of living with an adult child (age 18 or older).[2] (For 1940 and 1990, P_x for $x \geq 90$ is calculated as the probability of coresidence for all persons 90 and older because age is top coded at 90 in the 1990 census. For 1900, P_x for $x \geq 85$ is calculated as the probability of coresidence for all persons 85 and older because the sample sizes are too small for ages above 85 in the 1900 census to calculate P_x for each single year of age.) Therefore, $L_x * P_x$ is the number of person years lived in coresidence between consecutive exact integral ages, and $\sum_{a=65}^{119} L_x * P_x$ is the total number of person years lived in coresidence in old age (i.e., ages 65 to 119).

$e_x^{coresidence}$ is evaluated for each year, 1900, 1940, and 1990, and for men and women separately. The sex-specific (period) life table estimates (i.e., l_x and L_x) for each of the three years are taken from U.S. Department of Health and Human Services (1992), and the maximum age in these life tables is 119, which corresponds to the maximum used in our calculations. The estimates of P_x

[2]Living with a child may include living with a spouse and a child simultaneously.

The census does not allow us to determine whether the shared housing was for the benefit of the child, the parent, or both. To concentrate on shared living benefiting the parent, we examine coresidence of parents who are 65 and older, and at least one coresident child must be at least 18 years old. However, it still may be that a substantial share of adult children living with their elderly parents do so primarily for their own benefit (Weinick, 1995). Therefore, we also report an alternative to $e_x^{coresidence}$ where P_x is defined as the age-specific share who live in a household in which their child (or child-in-law) is the head, i.e., "Child Head" in Table 1. It is more likely that elderly parents who live in households headed by their children are sharing housing primarily for their own benefit.

Results

Table 1 presents the estimates of $e_x^{coresidence}$ for five points in the life cycle. Evaluated at age 0, the estimate provides a measure of the expected lifetime number of years of old age coresidence at the time of birth, and it is heavily influenced by the probability of surviving to old age. Fertility decisions have been posited to be determined in part by the assistance that children provide in old age; therefore, we present estimates during a prime fertility age, i.e., age 25. Plans for retirement, which perhaps begin to crystallize around age 45, may also be affected by expected support from children, therefore, $e_{45}^{coresidence}$ is reported. Age 65 is the most common age of retirement so $e_{65}^{coresidence}$ is also presented in Table 1. Finally, we present estimates for age 85, which is late in the life course. In addition to the expected number of years in coresidence, life expectancy at each age, e_x, is also reported in Table 1.

While the share of people 65 and older living with an adult child declined by roughly 10 percentage points between 1900 and 1940 (Figure 1),[3] life expectancy at birth (for women) increased by 17 years, and much of the decline was due to improvements in mortality at younger ages; expected years of life at age 85 increased by only 0.36 years during the first four decades of the century (Table 1). In terms of old age coresidence for women, the expected lifetime number of

[3]The estimates of P_x for 1900 presented in Figures 1 and 2 are three-year moving averages.

years of old age coresidence at birth *increased* by more than one full year between 1900 and 1940, from 3.02 to 4.13. At age 45, the estimates are roughly the same in 1900 and 1940. Conditional on living until age 65, however, the expected number of years of coresidence for women is 1.13 years greater for 1900 versus 1940. The improvements in old age mortality are responsible for reversing the gap in $e_x^{coresidence}$ between 1900 and 1940 as age increased above 65; by age 85, the expected number of years in coresidence was .20 years greater in 1940 than 1900.

The changes in $e_x^{coresidence}$ over time for men are similar, but the level is lower relative to women. At birth, the expected number of life years lived in coresidence was 2.26 in 1900 and 2.63 in 1940. Relative to women, there was a larger decline in $e_{65}^{coresidence}$ between 1900 and 1940 for men. And conditional on living until 85, the number of additional life years lived in coresidence for men dropped by .31 years between 1900 and 1940.

The share of the elderly who live in a household headed by a child is much lower than the proportion who share a household with a child, regardless of who the head is (Figures 1 and 2). For example, among 80 year olds in 1900, 60 percent lived with a child, but only 40 percent lived in a household headed by their child. Whether coresidence is measured by living with a child or living in a household headed by a child, there was a decline in coresidence over time, and most of the decline occurred after 1940.

The expected number of life years lived in coresidence is much lower if P_x is measured as living in a child-headed household. However, the change over time in $e_x^{coresidence}$, at least for women, tells a similar story regardless of the two measures of $e_x^{coresidence}$ that are calculated (Table 1). At the younger ages, the expected number of life years women lived in old age in a household headed by a child increased between 1900 and 1940. This gap reverses at the middle ages, with greater coresidence in 1900 relative to 1940 starting around age 35; the gap then declines at the oldest ages, with $e_{85}^{coresidence}$ roughly equal in 1900 and 1940. The pattern is similar for men.

In sum, the results for the first four decades of the century imply that the importance of children in providing housing in old age did not diminish. Moreover, from some perspectives, like the perspective of women during child bearing ages, there was an *increase* in the importance of children in providing old age assistance.

The trend between 1940 and 1990 is unmistakable. Despite the substantial improvements in mortality, the large decline in coresidence among the elderly, from about 50 percent in 1940 to 15 percent in 1990, caused a large decline in $e_x^{coresidence}$, and this is true for all ages. For women, the decline in $e_{85}^{coresidence}$ "with child" was 1.6 years, from 2.73 to 1.13; for men, the decline was from 2.02 to 0.69. Moreover, a decline is estimated whether coresidence is measured as shared living or living in a child-headed household.

Comparing 1900 with 1990, there was also a decline over the century taken as a whole. However, the extent of this decline depends on age and sex. For women at birth, the expected number of years of old age coresidence declined by only 0.30 years, from 3.02 to 2.53. Conditional on survival to age 85, the decline in $e_x^{coresidence}$ for women was from 2.53 years to 1.13 years despite the fact that the share living with children declined from 60 to 15 percent. The decline in $e_x^{coresidence}$ was larger for men than women.

Discussion

This note is related to work by Uhlenberg (1996, 1980) and Martin and Culter (1983) who examine the changes over time in the number of surviving kin as mortality has improved. These studies demonstrate that mortality improvements have lead to an unprecedented increase in the availability of kin. Given these findings, the natural next question to ask is whether the rise in the availability of kin has translated into greater assistance provided by the family. This note has addressed this question by examining the change over time in parent-child interaction through shared residence.

It has been posited that the provision of old age assistance by children influences parental decision making. The decisions that are affected are made throughout the parents' life course, beginning perhaps with the choice of the number of children and the extent to which investments are made in each child. If future old age support does influence decisions throughout the life course, parents can be expected to factor in both (i) the probability of receiving old age assistance (represented in this study by shared residence) conditional on surviving to old age and (ii) the probability of reaching old age and beyond.

Because of the rapid improvement in mortality in the 20th century, it is particularly important to incorporate both of these factors when examining the change in family support over this period. Previous studies have not considered the improvements in mortality. This note has shown that for women the role of old age assistance *increased* during the first four decades of the century when mortality improvements are taken into account, not decreased, as suggested by simply examining the probability of old age coresidence among the elderly. During the subsequent fifty years, old age coresidence declined whether measured simply by P_x or by $e_x^{coresidence}$, although the life years measure implies a smaller reduction and a continued important role for family assistance.

A couple of factors should be considered in interpreting the results. Shared housing is just one form of assistance that the family can provide to the elderly. Unfortunately high-quality quantitative data on interhousehold assistance provided by the family to the elderly is not available for most of the 1900s. If interhousehold transfers have increased, then changes in living arrangements overstate the decline in the importance of the family. In addition, as is common with life table techniques, it is assumed that expectations are based on period-specific outcomes, in this case period-specific mortality and shared housing. Investigating whether individuals determine their expectations in a different manner and, if so, incorporating alternative estimates is left to future work. Even with this limitation, this note demonstrates that accounting for changes in mortality is important for assessing the change in the role of families in providing old-age assistance.

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Table 1

Expected Life Years Lived in Coresidence While in Old Age, by Sex

	1900			1940			1990		
		$e_x^{coresidence}$			$e_x^{coresidence}$			$e_x^{coresidence}$	
x	e_x	With Child	Child Head	e_x	With Child	Child Head	e_x	With Child	Child Head
Women									
0	48.96	3.02	1.70	65.74	4.13	2.13	78.65	2.53	1.00
25	39.33	4.08	2.29	45.74	4.48	2.31	54.86	2.57	1.02
45	25.07	4.89	2.75	28.33	4.82	2.48	35.79	2.63	1.04
65	12.01	7.35	4.13	13.42	6.32	3.26	18.81	2.97	1.18
85	4.00	2.53	2.11	4.36	2.73	1.98	6.59	1.13	0.78
Men									
0	46.41	2.26	0.63	61.43	2.63	0.74	71.57	1.54	0.27
25	38.17	3.17	0.88	42.37	2.92	0.82	48.38	1.58	0.28
45	23.99	3.84	1.06	25.37	3.20	0.90	30.39	1.67	0.30
65	11.35	6.05	1.68	11.92	4.75	1.34	14.78	2.08	0.37
85	3.73	2.33	1.30	4.05	2.02	1.25	5.20	0.69	0.37

"With Child" refers to estimates in which P_x is defined as the share of elderly living with a child, and "Child Head" refers to estimates in which P_x is defined as the share of elderly living in a household headed by a child.

Figure 1
Parent-Child Coresidence by Age of the Parent
Men and Women Combined
1900, 1940, and 1990

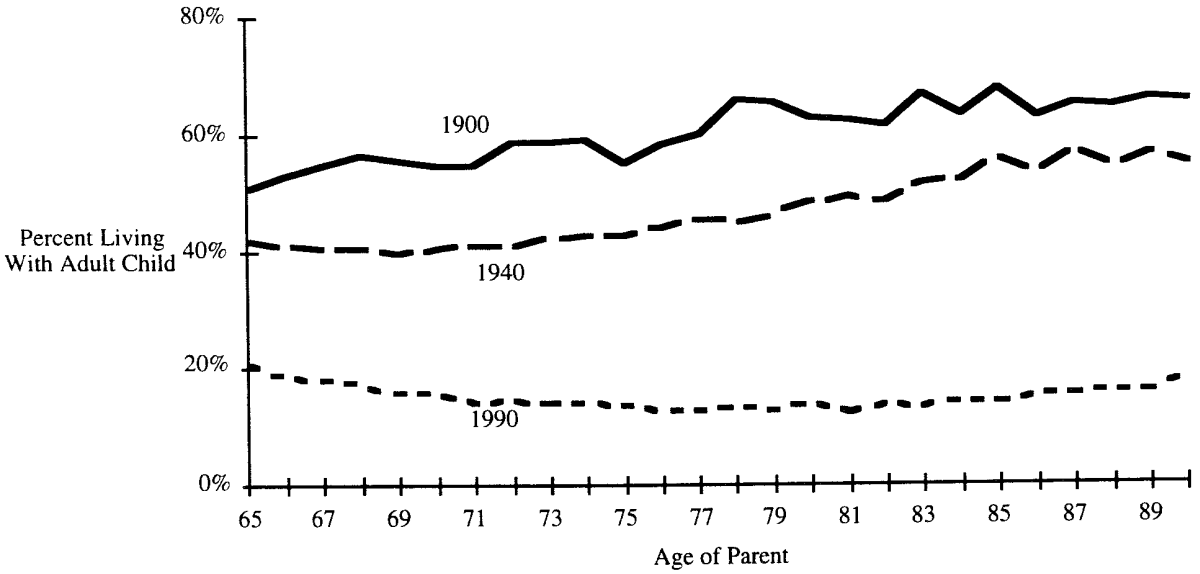
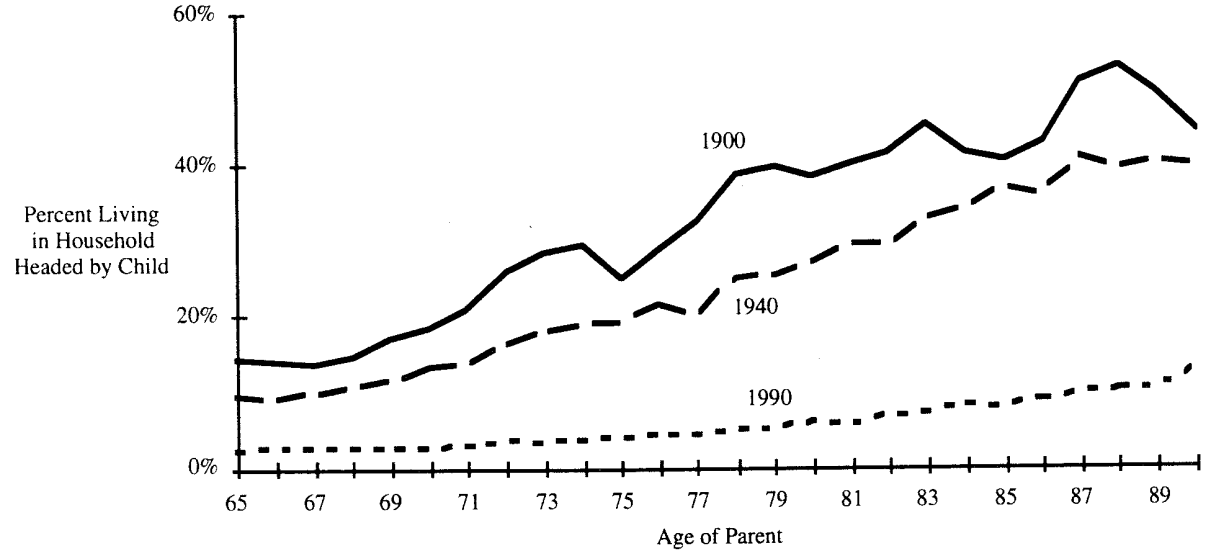


Figure 2
Share of Elderly Living in a Household Headed by Their Child,
by Age of Parent
Men and Women Combined
1900, 1940, and 1990



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