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The Historic Rise of One-Person Households: 1850-2010

Rose M. Kreider and Jonathan Vespa

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The growth in one-person households in the United States since the mid 1800s is one of the largest changes in household composition during this time. While in 1850, about 2 percent of all households contained one person, this rose to 27 percent by 2010 (see Figure 1). This extraordinary growth likely reflects a variety of factors, including gains in life expectancy, improved health at older ages, improved economic well-being of the older population, an increasing age at first marriage in the latter 20th century, and shifts in the acceptability of young women living alone.

Two major themes that are repeated within the literature that explores the reasons for the increase in one-person households are the idea that Americans prefer “privacy” in living arrangements, and that increasing economic resources are often used to “purchase” this privacy in the form of living alone. Beresford and Rivlin (1966) interpreted the increase in older adults living alone to be part of the same trend as for younger people; both groups prefer privacy if they can afford it. Similarly, Ruggles (2007, 2009) found that as economic opportunities for the younger generation increased, they tended to move out and live on their own rather than coreside with their parents. Looking at increases in living alone among elderly widows, McGarry and Schoeni (2000) found that increasing income, especially Social Security benefits were the single most important determinant of type of living arrangement among this group, accounting for nearly half of the change. They noted that those who had higher incomes were more likely to live alone, which they interpreted as a preference for privacy. While fertility declines over the century were tested and confirmed as playing a role in the increase in one-person households

(Kobrin 1976, Kramarow 1995), these factors were generally found to play a smaller role as increasing economic resources (Ruggles 1994, McGarry and Schoeni 2000).

Researchers who have examined the increase in one-person households have also noted that there is diversity among those who live alone. Kobrin (1976) found that living alone was concentrated among the youngest and oldest adults, with much of the increase in one-person households among older women and younger men living alone before they married. Marketers have also noticed that those who live alone include several component groups, including affluent young adults as well as elderly widows—a group many people may picture when thinking about who lives alone (American Demographics 1993, 2003). Glick (1994) also notes a group of middle aged adults living alone, the majority of whom were never married, college educated, childless, employed, and in good health. Klinenberg's recent book (2012) also details several groups within those who live alone, from the affluent younger population to the financially precarious older population.

But while we do know those who comprise one-person households are a diverse group, little is known about how the demographic composition of this group has shifted over a longer period of time. While in 2010, 55 percent of one-person households were women living alone, in 1850, 61 percent were men living alone (see Figure 3). While in 1850, 4 percent of one-person households contained black men, not all that far from the percentage in 2010 (6 percent), 12 percent of one-person households in 1870 and 1880 were black men. White women made up 36 percent of one-person households in 1850, but 58 percent in 1970.

We explore changes in the basic demographics of one-person households since 1850. Using IPUMS data¹ along with 2010 Census data, we use logistic regression models to explore what demographic characteristics are associated with one-person households, and how this has changed over time. We also propose to quantify the magnitude of the shifts in the proportion of households that contained one person. We hope to provide a look at changes in the composition of one-person households over the course of the 20th century and to the present.

We begin with a descriptive look at the growth in one-person households, and the basic demographic characteristics of those householders. Figure 1 illustrates the tremendous growth in one-person households, from 2 percent in 1850 to 27 percent in 2010. It appears that while there was slow growth from 1850 to 1930, the change accelerated from 1940 through about 1980, during which the percentage of households with one person rose from 6 percent to 23 percent. The steep slope of the change from 1940 through 1980 seemed to slow somewhat, so that the percentage of one-person households grew only from 23 percent in 1980 to 27 percent in 2010.

Figure 2 shows the composition of one-person households by age and sex. While the majority (55 percent) of one-person households in 2010 were women, this was not true until 1940, when 53 percent were women. The high proportions of young male householders in the earlier centuries (e.g., 61 percent in 1850, 65 percent in 1860) likely reflect young immigrants coming to the US who had not yet sent for their families, or not yet formed families. While women age 65 and over made up about a third (34 percent) of one-person households in 1970, by 2010, their share decreased to one quarter. This likely reflects increases in life expectancy for men, so that women may spend fewer years as widows.

¹ Steven Ruggles, J. Trent Alexander, Katie Genadek, Ronald Goeken, Matthew B. Schroeder, and Matthew Sobek. Integrated Public Use Microdata Series: Version 5.0 [Machine-readable database]. Minneapolis, MN: Minnesota Population Center [producer and distributor], 2010.

While race has been conceptualized and measured in various ways across the 20th century, it is interesting to look at a crude measure such as that shown in Figure 3. Unsurprisingly, most one-person households contained a White person. The US population was at least 88 percent White until about 1970 (Hobbs and Stoops 2002). Perhaps most interesting is the fact that the percentage of one-person households that were Black men was about 12 percent in 1870 and 1880, but was about 6 percent in 2010, although the proportion of the population who are Black men was higher in 2010 than in the late 1800s. Without further research, it's difficult to speculate about this population who lived alone in the Reconstruction period following the Civil War.

Data

We use the Integrated Public Use Microdata Samples (IPUMS) decennial census data for 1850 through 2000 (Ruggles, et al, 2010), and Census 2010. Data for 1890 are not available, and so are not included.² Data from 1850 through 1960 are from the 1-percent samples, the 1970 1-percent form 2 state sample, and the 1980 through 2000 5-percent samples. The descriptive figures make use of the full 2010 file, but it was too large to include in the models, so we included a random sample of 999,999 households, a little less than a 1 percent sample, since there were 116.7 million households in 2010 (Lofquist et al 2012). Since we select only householders, we avoid the error associated with clustering (people living together in households) in the decennial data.

In order to take a closer look at changes in one-person households over time, we ran logistic regression models predicting whether householders lived alone. Our sample is very large, with 18,015,418 unweighted observations when we include 1850 through 2010, and 17,751,259 when we include 1900

² Most of the 1890 Census schedules were destroyed in a fire in the basement of the Department of Commerce in 1921. For a history of the 1890 Census, see Blake (1996).

through 2010. We controlled for age, gender, and race of the householder, and grouped the years into the following sets: 1850 through 1930, 1940 through 1970, and 1980 through 2010. As we saw in Figure 1, the first time period was characterized by a low percentage of one-person households, from 2 percent to 6 percent. The 1940 through 1970 time period saw a steep increase in one-person households, from 8 to 18 percent. In 1980 through 2010 the growth slowed, with the percentage increasing from 23 to 27. In the models, we omit 1980 onward for ease of comparing earlier time periods with the current one.

For the householder's characteristics, we created the following age groups: those age 15 to 34, those age 35 to 64 (omitted), those age 65 to 74, and those age 75 and older. Householders are grouped by race, either as white (white alone in 2000 and 2010), black (black alone in 2000 and 2010) and everyone else. Gender of the householder is not simply the sex reported for the householder. Since in earlier decades, the man is by definition the householder in a married couple, we randomize gender for married couple households. This removes the artificial inflation of the proportion of male householders in married couple households that is due simply to the fact that the man had to be reported as the householder in earlier years. Reporting of husbands as the householder is not random in later years either. So in all years, we randomly assign the gender for householders who are living with a spouse.

Table 1 shows the logistic model predicting whether the household includes only one person, controlling for these individual characteristics, and for the time periods described above. Not surprisingly, both of the earlier time periods have lower odds of one-person households than 1980 to 2010. Perhaps of more interest in this model is the fact that the odds of householders age 35 to 64 being in a one-person household were no different than the odds for the younger group. But householders age 65 to 74 had odds 2.8 times higher than those age 35 to 64, and householders age 75 and over had odds 5.2 times higher than middle aged householders. The coefficients for race show that black householders had

higher odds of living alone than whites, while other householders had lower odds than white householders of living alone. Given the results in Model 1, showing that the age of householders is related to the odds of living in a one-person household, we ran separate models by age group (see Table 2). The results are similar to the pooled model, so we do not discuss them in detail.

As stated in the introduction to this paper, there are multiple demographic and socioeconomic shifts throughout the 20th century that may be related to the prevalence of one-person households. These shifts include gains in life expectancy for both men and women, improved health at older ages, improved economic well-being of the older population connected with Social Security payments, an increasing age at first marriage in the latter 20th century, and shifts in the acceptability of young women living alone. Factors such as economic growth for the population as a whole may also be related to the growth of one-person households since economic growth may lead to additional housing being built, as more people have the means to purchase housing and the privacy hypothesized to be a motivator for some who prefer to live alone.

We ran numerous models including the following predictors (by decade) one at a time in the logistic model: men's life expectancy, women's life expectancy, men's age at first marriage, women's age at first marriage, the gap in life expectancy between men and women, as well as the percent white in the total US population. Sample sizes are very large, and all of these predictors were associated with one-person households. These predictors are all very highly correlated—much too highly to include them together in models. The one predictor that stood out in terms of explanatory power regardless of age group was men's life expectancy. We use men's life expectancy at age 1, since it is available from 1900, and is closer to life expectancy for those who are in the real pool of potential householders—adults.³

³ We got the values of men's life expectancy from the National Center for Health Statistics.

Men's life expectancy lengthened over time, which helped reduce the time that elderly women spend widowed. This is one reason that the proportions of one-person households that are elderly women has decreased in recent decades compared with 1960 and 1970, for example (See Figure 2).

We also show results for models that include logged real per capita GDP (gross domestic product). We are using GDP as a proxy for economic growth that results in increased disposable income for individuals as they make housing choices, as well as a proxy for the expansion in housing opportunities over time and the ability of individuals to afford housing and create the privacy they may prefer in living arrangements.

Table 3 shows Models 3A through 3D, which were run separately for the four age groups, and include the time period controls, individual householder characteristic controls, and men's life expectancy. Since we do not have men's life expectancy for years before 1900, we include only 1900 to 2010. In each of the four models, the odds for men's life expectancy show that years with higher male life expectancy are associated with lower odds of one-person households. Adding men's life expectancy into the models changes the coefficients for the time period indicator variables for some age groups. For example, for those age 65 to 74, in the model without men's life expectancy (see Table 2), the coefficient for the time period up to 1930 was -.409. After men's life expectancy is added to the model, the coefficient is more than 75 percent larger (-.744), which suggests that accounting for men's lower life expectancy during the early 20th century further reduces the odds of living in a one-person household during that time period. The coefficient for 1940 to 1970 almost doubles, from .065 to .118 after the addition of men's life expectancy, indicating that a portion of the variation in one-person households during that time period is due to fluctuations (gains over time) in men's life expectancy.

When looking across the separate models for each age group, it is interesting to note that the odds for the gender variable are positive for the youngest group, indicating that among householders age 15 to 34, men are more likely to live alone than women. But in the oldest group, among householders age 75 and over, men have odds just 40 percent those of women.

While men's life expectancy is a proxy for the health of the population, and is essentially a demographic characteristic, since it relates to how long married men are present with their spouse, we also ran models including a measure of the economic growth experienced over this time period—logged per capita Gross Domestic Product (GDP).⁴ Economic growth may relate to the increase in one-person households through the creation of job and housing opportunities that may result in individuals having the resources to decide to live alone.

Table 4 shows the results of logistic models that include the per capita GDP for each decade, which we logged to correct for skew. As we did for men's life expectancy, we ran separate models by age group. In 2010 the real per capita GDP was \$47,710, a more than 20-fold increase since 1850 when the real per capita GDP was \$2,303 (adjusted to 2010 dollars). GDP is positively associated with the proportion of one-person households for all of the age groups: years with higher GDP per capita are associated with a higher percentage of one-person households. For householders age 75 and over, the odds of living alone increase 5.5 times for each one logged-unit increment of GDP, while for householders age 35 to 64, the odds of living alone increase by 2.0 times for each one logged-unit increase in GDP.

⁴ We got the values of GDP per capita from Samuel H. Williamson, "What Was the US GDP Then?" MeasuringWorth, August 2014. Retrieved 25 March 2014, <http://www.measuringworth.com/datasets/usgdp/result.php>

The logistic regression models show that both men's life expectancy and per capita GDP are associated with the increase in one-person households. We used decomposition analysis by time period to better understand the rise of one-person households. Decomposition analysis identifies the degree to which mean differences between two groups are attributable to either compositional differences in the population, or to differences in the effects of covariates. Decomposition can help identify why one-person households are more prevalent today than in 1850. Is it because the population of one-person households has a different demographic makeup than it did a century ago (i.e., differences in composition)? Or is it because characteristics such as gender, GDP, and age have a stronger effect on the chance of living alone (i.e., differences in covariates)? Decomposition has been traditionally applied to explaining mean differences in linear variables, such as the wage gap between men and women (Blinder, 1973; Oaxaca, 1973); but decomposition can be used on categorical variables to good effect (Fairlie, 2005; Jann, 2008).

Table 5 shows the decomposition of one-person households by time period with the models including men's life expectancy. The top panel shows that the mean estimate of one-person households increased from 6 percent between 1900 – 1930 to 19.7 percent between 1940 – 2010. Of this 13.7 percentage point increase, about 89 percent is due to compositional shifts in the population across the two periods. Only about 10 percent of the increase is the result of changes in the effects of variables. Of note, if the earlier period had the same distribution of men's life expectancy as the later period, then the already low estimate of one-person households for 1900 – 1930 would be further reduced. Indeed, the compositional differences in men's life expectancy explains –153 percent of the gap in living alone between the earlier and later periods. What this result suggests is that living alone during the early part of the 20th century was very much bolstered by men's shorter life expectancy.

What is intriguing about the role of life expectancy is that if it *reduces* the estimate of one-person households for the earlier period, why does it not reduce the estimate for the later period too? After all, if men are living longer then there should be fewer one-person households at the end of the 20th century because fewer women are widows. However, the proportion of one-person households continues to grow. Of course, there are many other factors in play which also affect household composition.

As GDP rises, so does the likelihood of living alone. Table 6 shows the decomposition of one-person households by period for the models that included logged per capita GDP. The addition of GDP to the model suggests that the rise of one-person households during the 20th century is entirely due to compositional changes in the population of adults who live alone, rather than changes in the effects of variables related to the odds of living alone. The decomposition analysis reveals that if the earlier period had had the same GDP as the later period, then the mean estimate of one-person households during 1900 to 1930 would have increased by almost 20 percentage points, from 6 percent to 25 percent. Thus a major reason why one-person households were so much less common at the beginning of the 20th century is because economic resources were scarcer; in other words, people did not have the means to live alone.

CONCLUSION

This analysis has described changes in the demographic characteristics of one-person households over time as well as several macro level indicators that are associated with the increase—men's life expectancy and per capita GDP. Increases in men's life expectancy are associated with lower odds of one-person households, while increases in per capita GDP are associated with higher odds of one-person households. Men's life expectancy is related to the growth in one-person households since older married women are less likely to live alone when their husbands live longer. We use GDP as a proxy for

economic circumstances, such as individuals having the disposable income necessary to live on their own, as well as the availability of housing that allows for that possibility.

Decomposition analysis reveals that the growth of the one-person households is due almost entirely to compositional shifts in the population over time. Men's shorter life expectancy during the earlier 20th century inflated the estimate of one-person households during that period, while the increase in GDP has substantially contributed to the rise in living alone. Indeed the decomposition analysis suggests that if adults in the early 20th century had as many economic resources as today, then one-person households prior to World War II would have been at least as prevalent as they are today. In other words, one of the prerequisites of living alone is the economic means to do so, and thus living alone was not necessarily less common a century ago because of cultural preferences, but because people lacked the financial means.

References

1993. "People Living Alone," *American Demographics*, 15:38-39.
- Morrow, James. 2003. "A Place for One," *American Demographics*, November.
- Beresford, John C. and Alice M. Rivlin. 1966. "Privacy, Poverty, and Old Age," *Demography*, 3:3:445-457.
- Glick, Paul C. 1994. "Living Alone During Middle Adulthood," *Sociological Perspectives*, 37:3:445-457.
- Blake, Kellee. 1996. "First in the path of the firemen: the fate of the 1890 population census," *Prologue Magazine*, 28:1:64-81.
- Fairlie, R. 2005. An extension of the Blinder–Oaxaca decomposition technique to logit and probit models. *Journal of Economic and Social Measurement*, 30, 305–316.
- Hobbs, Frank and Nicole Stoops. 2002. "Demographic Trends in the 20th Century," *Census 2000 Special Reports*, CENSR-4, U.S. Census Bureau, Washington, DC, available online at: <http://www.census.gov/prod/2002pubs/censr-4.pdf>
- Kobrin, Frances, E. 1976. "The Fall in Household Size and the Rise of the Primary Individual in the United States," *Demography*, 13:1:127-138.
- Klinenberg, Eric. 2012. *Going Solo: The Extraordinary Rise and Surprising Appeal of Living Alone*, Penguin Books, New York: New York.
- Jann, B. 2008. The Blinder-Oaxaca decomposition for linear regression models. *The Stata Journal*, 8, 453–479.
- Kramarow, Ellen, A. 1995. "The Elderly Who Live Alone in the United States: Historical Perspectives on Household Change," *Demography*, 32:335-352.
- Lofquist, Daphne, Terry Lugaila, Martin O'Connell, and Sarah Feliz. 2012. "Households and Families: 2010," *2010 Census Briefs*, C2010BR-14, U.S. Census Bureau: Washington, DC, available online at: <http://www.census.gov/prod/cen2010/briefs/c2010br-14.pdf>
- McGarry, Kathleen and Robert F. Schoeni. 2000. "Social Security, Economic Growth, and the Rise in Elderly Widows' Independence in the Twentieth Century," *Demography*, 37:2:221-236.
- Oaxaca, R. 1973. Male–female wage differentials in urban labor markets. *International Economic Review*, 14, 693–709.
- Ruggles, Steven. 1994. "The Transformation of American Family Structure," *American Historical Review*, 99:103-128.
- Ruggles, Steven. 2007. "The Decline of Intergenerational Coresidence in the United States, 1850 to 2000," *American Sociological Review*, 72:964-989.
- Ruggles, Steven. 2009. "Reconsidering the Northwest European Family System: Living Arrangements of the Aged in Comparative Historical Perspective," *Population and Development Review*, 35:2:249-273.

Steven Ruggles, J. Trent Alexander, Katie Genadek, Ronald Goeken, Matthew B. Schroeder, and Matthew Sobek. Integrated Public Use Microdata Series: Version 5.0 [Machine-readable database]. Minneapolis, MN: Minnesota Population Center [producer and distributor], 2010.

The historic rise of living alone: 1850 – 2010

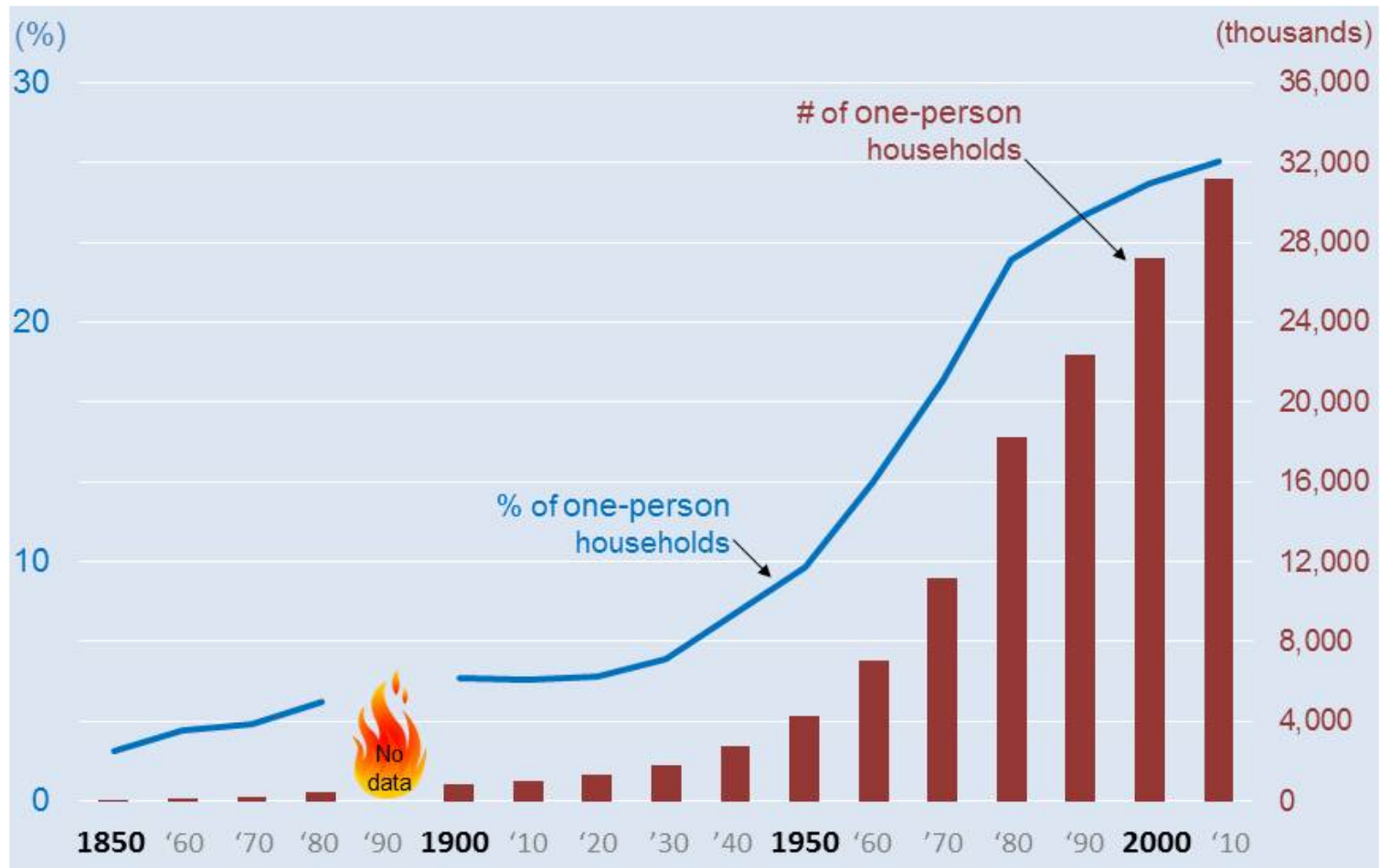
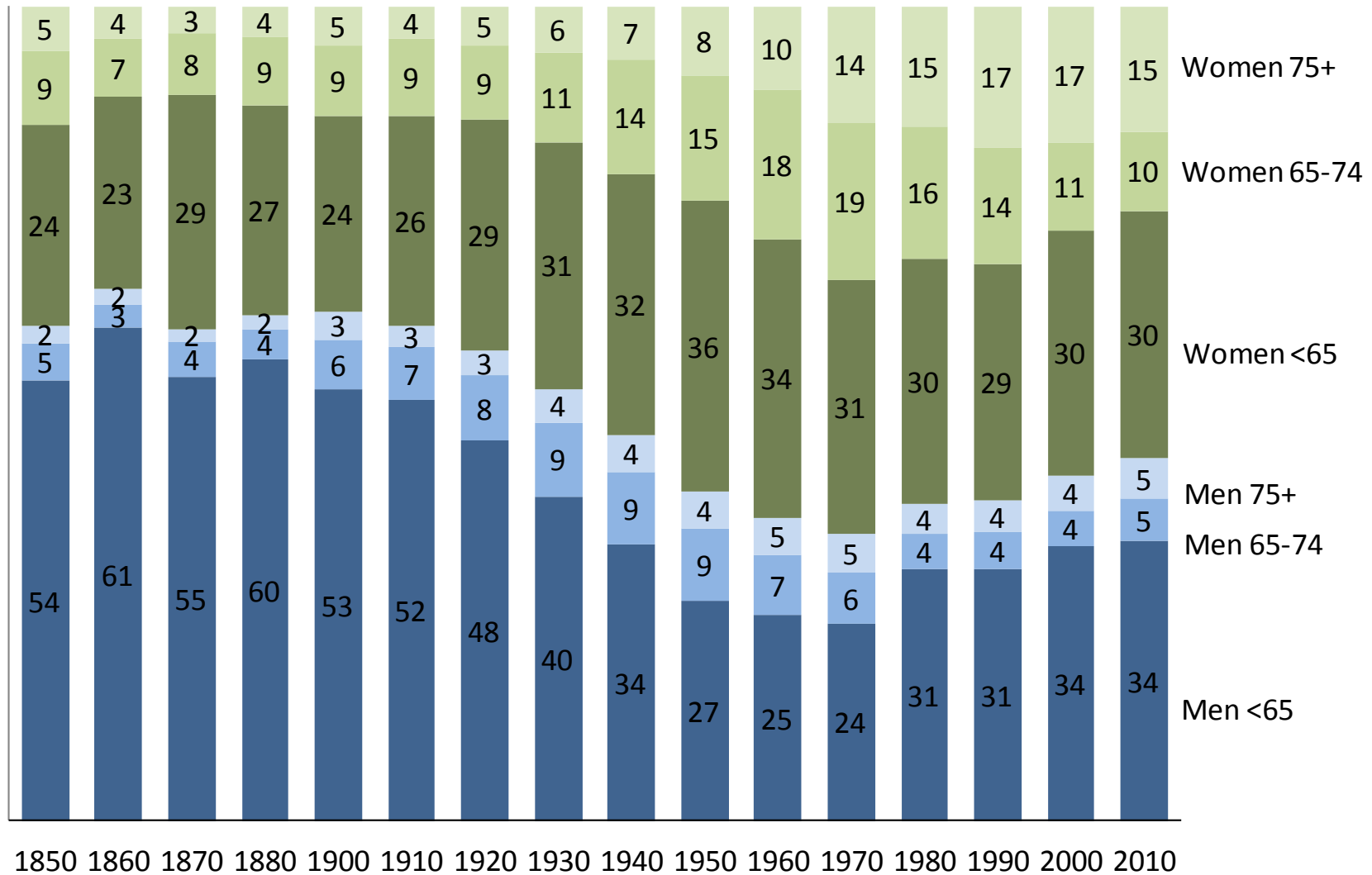
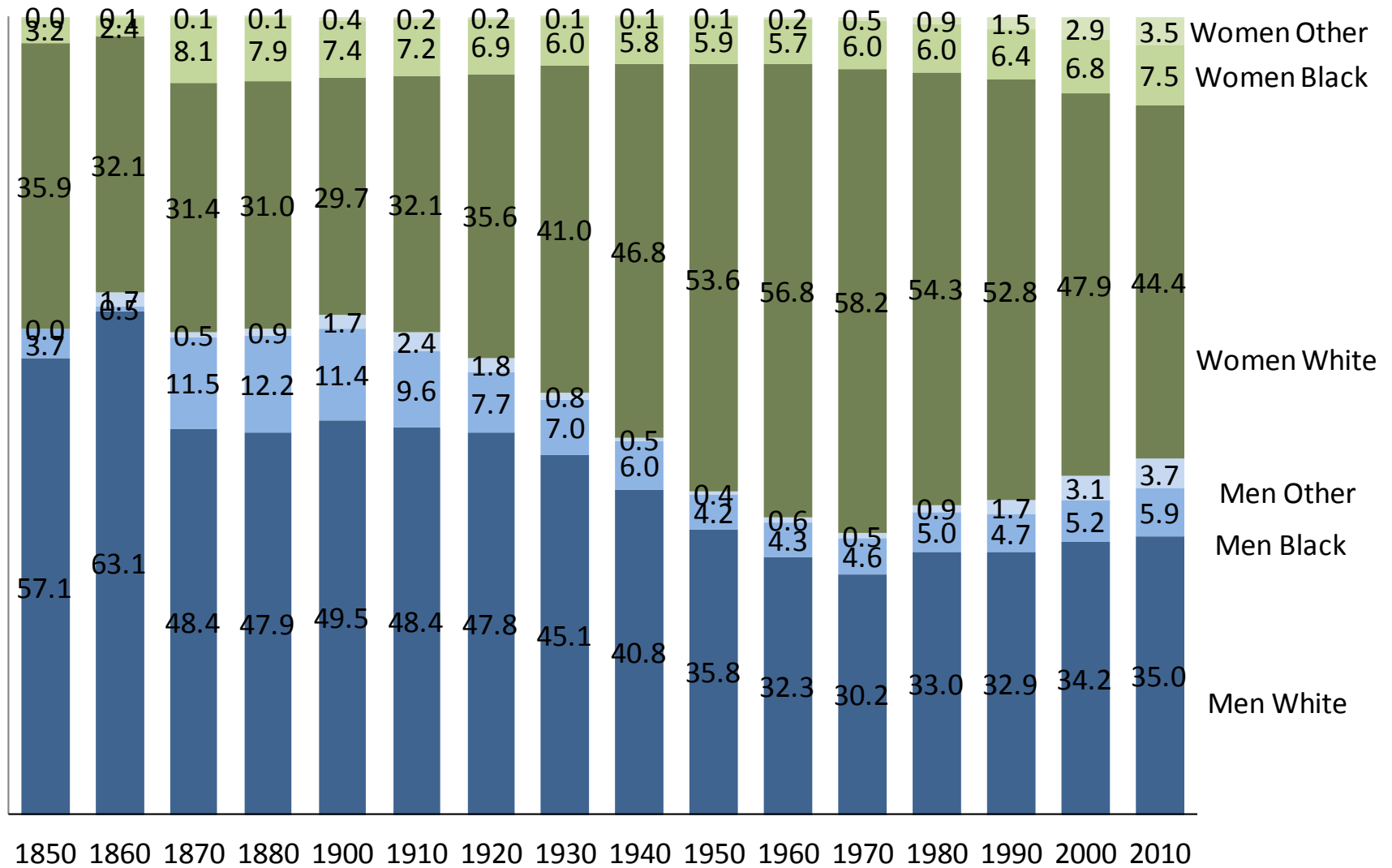


Figure 2. One-person households by age and sex, 1850 to 2010 (%)



Source: Integrated Public Use Microdata Sample (IPUMS) 1850-2000, 2010 Census. Differences in percentages between years or within years less than 3 percentage points may not be significantly different due to sampling error.

Figure 3. One-person households by race and sex, 1850 to 2010 (%)



Source: Integrated Public Use Microdata Sample (IPUMS) 1850-2000, 2010 Census. Differences in percentages between years or within years less than 3 percentage points may not be significantly different due to sampling error.

Table 1. Model 1: Logistic Regression, One-Person Households, individual controls only: 1850-2010

Characteristic	Parameter estimate	Standard error of the coefficient	
Intercept	-2.40	0.0006	***
Centered year	0.02	0.0000	***
1850 to 1930	-0.34	0.0008	***
1940 to 1970	-0.23	0.0004	***
1980 to 2010	(reference)		
Male householder	-0.09	0.0002	***
Female householder	(reference)		
Age 15 to 34	0.000	0.0003	
Age 35 to 64	(reference)		
Age 65 to 74	1.041	0.0003	***
Age 75 and older	1.639	0.0004	***
White	(reference)		
Black	0.20	0.0004	***
Other race	-0.33	0.0007	***

unweighted sample size 18,015,418

Significance is noted as follows: *(<0.05), **(<0.01), ***(<0.0001).

NA- not applicable.

Source: IPUMS 1850-2000, U.S. Census Bureau, Census 2010.

Table 2. Model 2: Logistic Regression, One-Person Households, individual controls only: 1900-2010

Characteristic	Model 2A-Age 15 to 34			Model 2B-Age 35 to 64			Model 2C-Age 65 to 74			Model 2D-Age 75 and over		
	Parameter estimate	Standard error of the coefficient		Parameter estimate	Standard error of the coefficient		Parameter estimate	Standard error of the coefficient		Parameter estimate	Standard error of the coefficient	
Intercept	-2.57	0.0016	***	-2.71	0.0010	***	-1.12	0.0016	***	-0.42	0.0022	***
Centered year	0.02	0.0000	***	0.02	0.0000	***	0.01	0.0000	***	0.01	0.0000	***
1900 to 1930	-0.53	0.0020	***	-0.11	0.0011	***	-0.40	0.0020	***	-0.59	0.0028	***
1940 to 1970	-0.78	0.0010	***	-0.06	0.0006	***	0.06	0.0010	***	-0.16	0.0013	***
1980 to 2010	(reference)			(reference)			(reference)			(reference)		
Male householder	0.51	0.0005	***	0.04	0.0003	***	-0.79	0.0006	***	-0.94	0.0007	***
Female householder	(reference)			(reference)			(reference)			(reference)		
White	(reference)			(reference)			(reference)			(reference)		
Black	0.16	0.0008	***	0.32	0.0005	***	0.11	0.0010	***	-0.15	0.0013	***
Other race	-0.32	0.0011	***	-0.39	0.0010	***	-0.30	0.0022	***	-0.46	0.0027	***
unweighted sample size	4,454,285			9,621,609			2,112,654			1,562,711		

Significance is noted as follows: *(<0.05), **(<0.01), ***(<0.0001).

NA - not applicable.

Source: IPUMS 1900-2000, U.S. Census Bureau, Census 2010.

Table 3. Model 3: Logistic Regression, One-Person Households, with male life expectancy: 1900-2010

Characteristic	Model 3A-Age 15 to 34			Model 3B-Age 35 to 64			Model 3C-Age 65 to 74			Model 3D-Age 75 and over		
	Parameter estimate	Standard error of the coefficient		Parameter estimate	Standard error of the coefficient		Parameter estimate	Standard error of the coefficient		Parameter estimate	Standard error of the coefficient	
Intercept	13.45	0.0285 ***		-0.84	0.0169 ***		10.09	0.0270 ***		12.98	0.0351 ***	
Centered year	0.06	0.0001 ***		0.02	0.0000 ***		0.04	0.0001 ***		0.05	0.0001 ***	
1900 to 1930	-0.78	0.0021 ***		-0.16	0.0012 ***		-0.74	0.0021 ***		-0.92	0.0029 ***	
1940 to 1970	-0.62	0.0009 ***		-0.04	0.0006 ***		0.12	0.0010 ***		-0.10	0.0013 ***	
1980 to 2010	(reference)			(reference)			(reference)			(reference)		
Male householder	0.51	0.0005 ***		0.04	0.0003 ***		-0.78	0.0006 ***		-0.93	0.0007 ***	
Female householder	(reference)			(reference)			(reference)			(reference)		
White	(reference)			(reference)			(reference)			(reference)		
Black	0.16	0.0008 ***		0.32	0.0005 ***		0.11	0.0010 ***		-0.15	0.0013 ***	
Other race	-0.28	0.0011 ***		-0.39	0.0010 ***		-0.28	0.0022 ***		-0.44	0.0027 ***	
Men's life expectancy	-0.26	0.0005 ***		-0.03	0.0003 ***		-0.18	0.0004 ***		-0.22	0.0006 ***	
unweighted sample size	4,454,285			9,621,609			2,112,654			1,562,711		

Significance is noted as follows: *(<0.05), **(<0.01), ***(<0.0001).

NA- not applicable.

Source: IPUMS 1900-2000, U.S. Census Bureau, Census 2010.

Table 4. Model 4: Logistic Regression, One-Person Households, with per capita GDP: 1900-2010

Characteristic	Model 4A-Age 15 to 34			Model 4B-Age 35 to 64			Model 4C-Age 65 to 74			Model 4D-Age 75 and over		
	Parameter estimate	Standard error of the coefficient		Parameter estimate	Standard error of the coefficient		Parameter estimate	Standard error of the coefficient		Parameter estimate	Standard error of the coefficient	
Intercept	-14.99	0.0546 ***		-9.17	0.0319 ***		-14.07	0.0521 ***		-15.98	0.0749 ***	
Centered year	-0.01	0.0001 ***		0.00	0.0001 ***		-0.02	0.0001 ***		-0.02	0.0002 ***	
1900 to 1930	-0.52	0.0021 ***		-0.09	0.0012 ***		-0.40	0.0020 ***		-0.60	0.0029 ***	
1940 to 1970	-0.71	0.0010 ***		-0.02	0.0006 ***		0.13	0.0010 ***		-0.11	0.0013 ***	
1980 to 2010	(reference)			(reference)			(reference)			(reference)		
Male householder	0.51	0.0005 ***		0.04	0.0003 ***		-0.79	0.0006 ***		-0.94	0.0007 ***	
Female householder	(reference)			(reference)			(reference)			(reference)		
White	(reference)			(reference)			(reference)			(reference)		
Black	0.16	0.0008 ***		0.32	0.0005 ***		0.11	0.0010 ***		-0.15	0.0013 ***	
Other race	-0.32	0.0011 ***		-0.39	0.0010 ***		-0.30	0.0022 ***		-0.46	0.0027 ***	
Per capita GDP (logged)	1.36	0.0060 ***		0.71	0.0035 ***		1.42	0.0057 ***		1.71	0.0082 ***	
unweighted sample size	4,454,285			9,621,609			2,112,654			1,562,711		

Significance is noted as follows: *(<0.05), **(<0.01), ***(<0.0001).

NA- not applicable.

Source: IPUMS 1900-2000, U.S. Census Bureau, Census 2010.

Table 5. Decomposition of one-person households, by time period (men's life expectancy)

	Coefficient			
	1940-2010	0.1969 ***		
	1900-1930	0.0602 ***	% of total	
	Difference	0.1367 ***	difference	% of group
Composition (Endowments)		0.1220 ***	89.27	100.00
Year (centered)		0.3139 ***	229.59	257.20
Male		0.0004 ***	0.31	0.34
Age 15 - 34		0.0004	0.29	0.32
Age 65 - 74		-0.0045 ***	-3.31	-3.70
Age 75 and older		0.0086 ***	6.30	7.06
Black		-0.0002 *	-0.14	-0.16
Other		-0.0010 ***	-0.70	-0.79
Men's life expectancy (years)		-0.2097 ***	-153.35	-171.79
Coefficients		0.0147 **	10.73	100.00
Year (centered)		-0.0287	-21.00	-195.69
Male		-0.0143 ***	-10.46	-97.45
Age 15 - 34		0.0047 **	3.44	32.03
Age 65 - 74		-0.0006	-0.41	-3.80
Age 75 and older		0.0006	0.40	3.76
Black		-0.0012	-0.88	-8.23
Other		-0.0009 ***	-0.66	-6.16
Men's life expectancy (years)		-0.3189	-233.27	-2173.44
Constant		0.3740	273.58	2549.09

* p < .05; ** p < .05; *** p < .001

Source: IPUMS 1900-2000, U.S. Census Bureau, Census 2010.

Table 6. Decomposition of one-person households, by time period (GDP, per capita)

	1940-2010	0.1969	***		
	1900-1930	0.0602	***	% of total	
	Difference	0.1367	***	difference	% of group
Composition (Endowments)		0.1378	***	100.78	100.00
Year (centered)		-0.0721	*	-52.77	-52.36
Male		0.0004	***	0.28	0.28
Age 15 - 34		-0.0001		-0.04	-0.04
Age 65 - 74		0.0041	***	3.03	3.00
Age 75 and older		0.0079	***	5.75	5.71
Black		-0.0002	*	-0.13	-0.13
Other		-0.0009	***	-0.69	-0.68
GDP (per capita)		0.1987	***	145.34	144.21
Coefficients		-0.0011		-0.78	100.00
Year (centered)		0.0040		2.93	-373.94
Male		0.0117		8.56	-1,093.76
Age 15 - 34		-0.0040		-2.90	370.20
Age 65 - 74		0.0004		0.29	-37.39
Age 75 and older		-0.0005		-0.33	42.07
Black		0.0010		0.71	-91.24
Other		0.0007		0.54	-68.90
GDP (per capita)		1.0953		801.12	-102,392.35
Constant		-1.1098		-811.74	103,748.71

* $p < .05$; ** $p < .05$; *** $p < .001$

Source: IPUMS 1900-2000, U.S. Census Bureau, Census 2010.

Appendix Table A. One-Person Households, 1850-2010

Year	One-person households	All households	Percent with one person
1850	74,282	3,572,459	2.1
1860	152,928	5,202,452	2.9
1870	241,901	7,553,218	3.2
1880	420,632	10,160,499	4.1
1890	NA	NA	NA
1900	830,530	16,252,363	5.1
1910	1,031,392	20,440,843	5.0
1920	1,282,944	24,522,873	5.2
1930	1,780,024	30,037,299	5.9
1940	2,710,046	34,553,719	7.8
1950	4,288,989	43,834,788	9.8
1960	7,032,865	52,795,862	13.3
1970	11,149,600	63,440,800	17.6
1980	18,197,680	80,467,000	22.6
1990	22,356,994	91,770,958	24.4
2000	27,213,858	105,558,968	25.8
2010	31,204,909	116,716,292	26.7

NA- not available

Source: IPUMS 1850-2000, U.S. Census Bureau, Census 2010.