

THE INTERGENERATIONAL EFFECTS OF WIDOWHOOD*

Anthony Bald[†]

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Abstract

This paper studies the impact of widowhood on the labor market outcomes of surviving spouses and their children. I use linked population and mortality censuses from the nineteenth century to identify newly widowed households. Recent spousal death increased the labor force participation of widows by over 10 percentage points, with no corresponding increase for widowers. Effects of parental death on children are heterogeneous by gender. The recent death of the father caused boys to substitute from schooling toward market work, whereas the recent death of the mother caused girls to substitute from both schooling and market work toward housework. These results suggest that the historical rise in longevity and decline in widowhood enabled greater human capital accumulation across generations.

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[†]California State University, Fullerton. Contact: abald@fullerton.edu.

1 Introduction

Mortality risk and longevity have been linked to individual investment in human capital, both theoretically and empirically (Ben-Porath 1967; Soares 2005; Jayachandran and Lleras-Muney 2009).¹ Yet we have little evidence on this association across generations: How does declining mortality in one generation affect human capital investment in the next? One consequence of falling mortality is lower population-wide exposure to spousal and parental death, yet this channel’s contribution to human capital growth remains underexplored.

This paper studies the intergenerational effects of widowhood on surviving spouses and their children in the late nineteenth century United States. Several features of this time period are useful for understanding how death affects human capital. First, death in this era was frequent and often unanticipated. Male life expectancy in the United States fell from 1790 to 1860 and did not recover until the turn of the twentieth century (Hacker 2010; Costa 2015). Infectious disease was a primary driver of mortality, and deaths from occupational hazards were common (Fishback and Kantor 2000; Haines 2001; Cutler et al. 2006). Second, government aid for widows was minimal apart from pensions offered to war widows, and child labor laws were sparse (Moehling 1999; Eli and Salisbury 2016; Salisbury 2017). The estimated effects therefore capture the full burden of death for widowed households absent state support and the tradeoff between work and school for their children.

The primary analysis sample is families in the 1870 and 1880 population censuses. Deaths that occurred within the past year are measured concurrently in the linked mortality censuses (Hacker et al. 2025). Mortality records circumvent issues with measurement error and allow economic outcomes for surviving family members to be observed in close proximity to recorded deaths. To assess the impacts of widowhood, widows and widowers are matched to married women and men who did not experience spousal death but had similar pre-widowhood characteristics. I further assess the robustness of the results using cause of death. Families that experienced accidental (plausibly random) death can be identified, addressing the concern that widowhood was correlated with unobserved household characteristics.

¹ Several papers focus on disease and mortality risk as determinants of investment in human capital (Bleakley 2007, 2010; Fortson 2011; Oster et al. 2013). A related literature cites human capital as a factor that mediates the relationship between longevity and long-run growth (Ehrlich and Lui 1991; Kalemli-Ozcan et al. 2000; Kalemli-Ozcan 2002; Weil 2007; Lorentzen et al. 2008).

I find that recent spousal death increased labor market participation of widows by 11 percentage points. Half of the increase in work was entry into the deceased husband’s occupation, consistent with women taking over family farms and businesses (Goldin 1986). Results are similar for the subset of accidental deaths, which suggests the effects on widows were not dependent on the manner in which spousal death occurred. The magnitude of this effect is large: Baseline labor force participation of married women was 2 percent, making new widows 6 times more likely to work than married women. In contrast, widowers were 0.5 percentage points less likely to work following spousal death, an economically small effect.

Next, I examine how parental death affected the next generation: the children of widows and widowers. The recent death of the father increased full-time work among children by roughly 3 percentage points. The increase in work corresponded with a drop in school enrollment of 4 percentage points. Much of the rise in work was concentrated among older sons, signifying a transition of the primary earner from fathers to sons, rather than to widows. The effect of maternal death on school enrollment is similar, but effects on work differ. Following death of the mother, children were 6 to 7 percentage points more likely to be classified under the occupation of “housework”, an effect driven by the household’s older daughters.

This paper contributes to several strands of research. Much of the modern-day literature on widowhood focuses on living arrangements, health, and financial well-being of elderly widows and widowers in representative surveys.² Sample sizes in these surveys are typically too small to investigate the loss of a working-age spouse. Several recent papers use administrative data to examine how household health shocks impact earnings, mental health, and well-being (Fadlon and Nielsen 2019, 2021; Coyne et al. 2024; Arteaga et al. 2025; Fadlon et al. 2026). These papers demonstrate effects in the context of the modern labor market and social safety net, whereas I examine intergenerational effects of mortality at a time when state support was limited.

I add to the literature on spousal and parental death by examining a representative sample of deaths. Braun and Stuhler (2024) study West German widows after World War II and find short-run increases in widow labor supply and reduced educational attainment for sons. Dupraz and Ferrara (2025) find that sons of men who died in the U.S. Civil War had lower occupational standing in

² See, for example, Hurd and Wise (1989), Smith et al. (1991), Sevak et al. (2004), Moon et al. (2014), Liu et al. (2020), and Rodin et al. (2024).

adulthood, except those from upper-income families. However, the post-war time context limits generalizability due to shifts in production and pensions (Goldin 1991; Salisbury 2017; Shatnawi and Fishback 2018; Costa et al. 2020; Garin and Rothbaum 2025). By studying deaths from infectious disease, chronic illness, and occupational hazards, the labor supply effects that I estimate are not confounded by post-war economic conditions. Goldstein (2025) studies the sons of men who died in mining accidents in the early twentieth century and finds lower incomes by 1940. I use a similar identification strategy, accidental deaths across a representative set of occupations, to examine outcomes for widowed individuals and their children.

A rich literature has studied children affected by parental death and orphanhood.³ Most closely related to this paper is research on heterogeneity in response to death by gender (Adda et al. 2011; Chen 2012; Gimenez et al. 2013; Kalil et al. 2015). For instance, Guerrero (2025) uses modern survey data from India to show that household resources and preferences drive gender differences following parental death. I estimate heterogeneity in the effects of death in the United States in the late nineteenth century, the height of the historical mortality transition.

Finally, I contribute to the body of research on child labor and household production. Child labor was historically common, especially among orphans and children in single-parent households (Goldin 1979; Parsons and Goldin 1989; Moehling 2004; Manacorda 2006; Humphries 2003). In the historical United States, child labor laws had little effect on incidence of child labor (Moehling 1999; Anderson et al. 2023). My contribution is to quantify how mortality decline led to fewer children being pulled into market work following parental death. This complements literature studying how the early introduction of government support affected the outcomes of widows and children (Aizer et al. 2016). The analysis has modern relevance: Households in developing countries today face tradeoffs in sending their children to school or to work (Basu and Van 1998; Edmonds and Pavcnik 2005; Bau et al. 2025). In these settings, parental death remains a key determinant of child labor (Beegle, Dehejia, et al. 2006). I report historical estimates of the effect of parental death on children’s outcomes, which informs settings today with high mortality and limited child labor regulation.

³ For papers on parental death, see Ainsworth et al. (2005), Chen et al. (2009), Cas et al. (2014), Liu et al. (2022), Dribe et al. (2022), and Daly et al. (2026). For papers on orphans, see Case et al. (2004), Beegle, De Weerd, et al. (2006), Evans and Miguel (2007), and Garcia-Brazales (2023).

The remainder of the paper is organized as follows. Section 2 provides historical context on death and widowhood in nineteenth century America. Section 3 describes the data sources and sample construction. Section 4 presents the effects of widowhood on surviving spouses. Section 5 presents the effects of parental death on children. Section 6 concludes.

2 Historical Background

In the late nineteenth century, mortality in the United States was high and predominantly driven by acute infectious diseases and their complications (Cutler et al. 2006). Infant mortality made up the largest share of overall mortality, but adult mortality was also comparably high, particularly in urban areas (Haines 2001). Mortality is reflected in estimated adult life expectancy: In 1870, white male life expectancy was roughly 42 years. Men were at higher risk of dying than women at all ages, except in early adulthood due to the mortality risk of childbirth (Hacker 2010). In the mortality censuses, roughly one third of married adults died from infectious disease, not including deaths from subsequent complications.

A direct consequence of high adult mortality was high rates of spousal and parental death. In 1880, 16 percent of women were listed in the population census as currently widowed (Figure 1, panel (a)).⁴ Widowhood risk rose with age, yet the share of women widowed was high even at younger ages: Among women ages 30–34, 6 percent were widowed. In the U.S. today, widowhood among women at this age is rare. The share of men currently widowed was lower (Figure 1, panel (b)), partially due to lower mortality risk among women. In 1880, the rate of widowhood among men ages 30–34 was 3 percent, compared to 6 percent overall. We can further examine the prevalence of widowhood among parents. In 1880, 10 percent of women with children in the household were widows (4 percent of women with children under 5), a share that had fallen to 5 percent by 1950 (Figure B.1).

Predictors of widowhood are shown in Table B.1. The estimation sample is individuals linked between the 1870 and 1880 censuses and aged 25–55 in 1880. I restrict to married couples in 1870 to obtain spouse characteristics and estimate the likelihood of becoming widowed in 1880. Black women and men are more likely to become widowed, but the coefficient for women is lower once spouse and household controls are included. Age and spouse’s age are both predictive of widowhood, more

⁴ Before 1880, the population census did not ask about marital status.

strongly among women. Other characteristics that are positively correlated with widowhood are foreign-born status and urbanicity (for women), whereas literacy, number of children, and household wealth are negatively correlated. Coefficients for spouse’s occupational skill level are shown relative to no occupation. A woman’s likelihood of becoming widowed was highest when her husband did not work, which may be correlated with underlying health. Broadly, these patterns align with the literature on mortality differences across groups (Ferrie [2003](#); Leonard et al. [2015](#); Feigenbaum et al. [2022](#); Antoine-Jones et al. [2023](#); Ager et al. [2024](#)).

Economic outcomes for widows in the late nineteenth century were often dire and a subject of social concern. Widows with no adult children to support them frequently ended up in almshouses or homes for the destitute (Kleinberg [2006](#)). It was not uncommon for women who were unable to support their children to give them up to orphanages (Moehling [2002](#)). Though the state recognized the poor outcomes of widowed households, its support of widows in this era was limited to war-related deaths. Beginning in 1862, the widows of Union Army soldiers received pensions as long as they remained unmarried (Eli and Salisbury [2016](#); Salisbury [2017](#)). Though limited, these pension programs set the stage for larger movements to support women and children, such as the Mothers’ Pensions in the early twentieth century (Aizer et al. [2016](#)).

One of the most common ways that widows and widowers survived was through support of family and charitable organizations. A large share of households in 1880 were multi-generational, and widows were more likely to live with their children than married women (Ruggles [2003](#)). Remarriage was common, particularly among widowers (Van Poppel [1995](#)). Though remarriage rates are challenging to estimate in U.S. census data, Salisbury ([2017](#)) estimates that 55 percent of women remarried following their husband’s death in the Civil War. Charitable organizations that served widows varied substantially across cities in scope and mission. Kleinberg ([2006](#)) examines the case of Fall River, Massachusetts, where ample paid opportunities for women and children meant the city was less willing to provide cash assistance to widowed households.

Widows who entered the labor force often worked in the occupation of their deceased husband or the service sector. Since married women during the late nineteenth century rarely participated in formal market work, their time was spent in household production: food preparation, childcare, and farm work that did not register as “gainful employment” in census records (Goldin [1990](#); Horrell and Humphries [1995](#)). When their husband died, widows could take on the work of their husband

in some cases (Goldin 1986). For instance, Table B.2 shows that bakers had the highest share of widows entering, followed by building managers and farmers. However, many occupations, such as bricklayer, had no widows enter. Among widowers, nearly all held an occupation prior to their wife’s death.

3 Data Sources and Sample Construction

For additional details on the data sources and sample construction, see Appendix A.

3.1 Censuses of mortality

The primary data sources are the decennial population and mortality censuses collected by the U.S. Census Bureau in 1870 and 1880. The mortality census was a novel data collection effort from 1850 to 1880, a period when many states did not track deaths. Though some states like Massachusetts began vital registration in the mid-nineteenth century, most states did not begin registering births and deaths until well into the twentieth century (Preston and Haines 1991). The mortality censuses are therefore the only surviving national registers of nineteenth century deaths.

The mortality census was enumerated alongside the population census. Households were asked by census enumerators to report all deaths in the past year. The enumerator recorded the details of each death, including name, age, marital status, month of death, and cause of death. Since the 1850–1880 population censuses were enumerated beginning in June, the mortality census captures deaths in the 12 months preceding June 1st. The mortality census does not contain deaths that occurred outside of the previous 12 months, deaths that went unreported by the household, or deaths with no surviving household members. For these reasons, it is difficult to use the mortality censuses to estimate overall population mortality rates (Condran and Crimmins 1979; Haines 1979; Ferrie 1996). Furthermore, not all microdata from all states have survived to the present day. Hacker et al. (2025) estimate that the share of surviving records is 85 percent for 1870 and 96 percent for 1880.

The mortality census records from 1870 and 1880 have been digitized and linked to the population census (Ruggles, Flood, et al. 2025; Hacker et al. 2025). Links are based on state, county, enumeration district, family number, and surname similarity. The linkage rates for 1870 and 1880 are 50 and 34 percent, respectively, resulting in samples of roughly 209,000 and 250,000 linked deaths. There are many reasons why linkage rates are not 100 percent, including missing,

incomplete, or illegible fields (Hacker et al. 2025). Families with deaths linked to the population census may not be representative of all families experiencing a death. For instance, linked male deaths are more likely to be native-born men from rural households. Following Bailey et al. (2020), I construct inverse propensity score weights to improve representativeness of the linked mortality sample in Section A.1.

Descriptive statistics for the full and linked mortality records are reported in Table A.1. The average age at death in the full mortality census was 25 years (column 1). However, a large number of recorded deaths are young children, consistent with high infant mortality rates (Preston and Haines 1991). Among deceased married men over the age of 16, the average age at death was 52 years (column 4). The records include cause of death, which I group into several broad categories.⁵ Causes of death during this period are markedly different from the 21st century. Even among adult men, 33 percent of deaths were from common infectious diseases like influenza and tuberculosis. Many deaths were likely due to complications from disease or poor living conditions. A non-trivial share of deaths, 6.5 percent, were due to violent or external causes. Note that among married women over the age of 16, 9 percent of deaths were related to pregnancy or childbirth. Comparing the mortality censuses of 1870 and 1880, deceased individuals in 1880 were slightly older, but had similar causes of death.

3.1.1 *Identifying widows and widowers*

I use the linked mortality records to identify widows and widowers in the population census. This linkage is necessary because information in the population census is limited. In 1870, the census did not record interrelationships within families or marital status. As a substitute, relationships can be imputed based on the ordering of names in the household (*e.g.*, the male household head listed first, the spouse listed second). However, without information on marital status, it is unclear if a household head in 1870 is widowed.⁶ The 1880 census asked about family interrelationships and marital status, making it more straightforward to identify self-reported widows and widowers.

⁵ See Section A.1. Cause of death is initially grouped by Hacker et al. (2025) according to the International List of Causes of Death, revision 2 (ILCD-2 1909). As those authors note, scientific understanding of diseases in 1870 was rudimentary, making it difficult to apply a more modern death classification to these data.

⁶ The 1870 census asked whether an individual was married within the past year. Since a “no” response could include widows whose husbands died over a year ago, and a “yes” response could include widows whose husbands died recently, this variable is difficult to use.

However, detailed information on when the spouse died or the circumstances of spousal death must be obtained from outside records.

In the 1870 and 1880 censuses, widows are identified as follows. Within households linked to the death of a married man aged 16 or older, I identify all women aged 16 or older. This identifies a unique woman in roughly 30 percent of cases. When more than one woman fits this description (for instance, a woman and her teenage daughter), I select the woman closest in age to the deceased with less than a 15-year age difference. This is the focal individual: the deceased husband’s surviving widow. The approach to identify widowers using the linked deaths of married women is analogous.

3.2 Sample construction

To measure the impact of widowhood, I use a matching framework. I describe the construction of the matched widows and widowers samples here, and the matched child sample in Section 5.1. Each widow is matched to married “control” women according to a set of baseline characteristics from the prior census. To accomplish this, I link women across censuses using the IPUMS Multigenerational Longitudinal Panel (MLP) links for 1860–1870 and 1870–1880 (Ruggles, Ozder, et al. 2025). The MLP links for women are based on identifying information, as well as the Social Security Administration Numident file, which contains maiden names. In robustness checks, I explore results using linked samples from the Census Tree (Price et al. 2021) and the Census Linking Project (Abramitzky et al. 2022).

Starting with the full set of 1860–1870 and 1870–1880 links, I impose several restrictions. First, I restrict the sample to women who were married at baseline to remove selection into marriage as a confounding factor. Second, I limit the sample to white women aged 25 to 55 at the time widowhood is measured. Since I limit the sample to women married at baseline, the lower age restriction removes the few cases where women show up as married at ages 15 or younger. The upper age restriction limits the analysis to women of prime working age. Very few widows in the linked sample are black, and I study these women separately in Section 4.2.2. Third, I require that *control* women remain married. This restriction drops women in the comparison group who were widowed or otherwise separated from their husbands over one year ago. The final sample consists of women in the 1860–1870 (1870–1880) linked sample who were married in 1860 (1870) and either married or newly widowed in 1870 (1880).

Using this sample, I construct exact matches based on the following baseline characteristics: census year, foreign-born status, age, husband’s age, husband’s occupation, county of residence, urbanicity, and an indicator for any children.⁷ Women are also matched on a propensity score for widowhood, calculated based on the following continuous variables: age, spouse’s age, number of children, and household wealth quartile. Table 1 reports balance statistics for the matched widows sample. The full samples of widowed and married women in the linked census are presented for comparison. New widows (column 1) are slightly older than married women (column 2), are more likely to be foreign-born, and more likely to have children. Their families look slightly different as well, with new widows having older spouses and more children. In column 3, 84 percent of widows are matched to control women. The matched married women in column 4 closely resemble the widowed women, even for variables not directly targeted in the matching process.

From Table 1, Panel A, the average woman in the matched sample is 44 years old with 3 to 4 children. Twenty percent of women lived in urban areas and half lived on a farm. Among accidental deaths only (Panel B), the widowed and matched women are slightly younger and more urban. The characteristics of deceased husbands are reported in Table B.3. Deceased husbands in the matched sample (column 3) skew younger due to the age range of matched widows. Over 10 percent of male deaths in the mortality sample were black, however, in the matched sample of white widows, deceased husbands were almost entirely white. The distribution of cause of death categories is similar between the full and matched samples, with one-third of deaths categorized under infectious disease and 5 percent classified as accidental.

The construction of the sample of widowers and matched non-widowed men is analogous to the matched widows sample, with one modification. Since most wives in the sample did not work, matching on wife’s occupation is less effective for obtaining a balanced sample. I instead match on the husband’s own occupation prior to spousal death, which captures information about class and income contained in occupation codes. Descriptive statistics for the matched sample are reported in Table C.1. Widowed men are aged 45 on average and are more likely to be farmers. The matched sample of married men is highly similar to widowed men in terms of baseline characteristics.

⁷ I allow for a fuzzy match on age by matching on five-year age bin for the woman and ten-year age bin for her husband. The specific matching algorithm is implemented in Stata using the `kmatch` command, which implements nearest-neighbor propensity score matching (Jann 2017).

Statistics of deceased wives are reported in Table C.2. The deceased wives in the matched sample skew younger, with about 8 percent dying from causes related to childbirth.

4 Effects of Widowhood on the Surviving Spouse

In this section, I report results for the effects of spousal death on widows. Additional tables and figures are reported in Appendix B. Results for widowers are reported in Appendix C.

4.1 Estimation approach

I estimate the following model using the matched widows sample:

$$Y_i = \beta_0 + \beta_1 \text{Widowed}_i + \Gamma \mathbf{X}_i + \varepsilon_i, \quad (1)$$

where Y_i is an outcome for women i , Widowed_i is a binary variable indicating spousal death within the past year, $\mathbf{X}_i$ is a vector of control variables, and ε_i is an error term. The vector $\mathbf{X}_i$ contains the variables used in the matching process.⁸ Standard errors are clustered at the county level.

To obtain unbiased estimates of β_1 , the identifying assumption is that the set of matched married women are an appropriate counterfactual for newly widowed women. The context of the late nineteenth century lends some support to this assumption. The majority of deaths were from acute infections and subsequent complications, rather than chronic conditions correlated with socioeconomic standing (Shaw-Taylor 2020).⁹ I match women based on broad predictors of mortality, such as location (Feigenbaum et al. 2019) and nativity (Ager et al. 2024). However, the coefficient β_1 may still be biased if, for instance, spousal death is correlated with socioeconomic status in a way that cannot be fully accounted for with matching. I isolate a subgroup of women for whom widowhood was plausibly random using cause of death in the mortality records, such as husband died in a machinery accident.¹⁰ The results for all deaths and accidental deaths are presented side-by-side for comparison.

⁸ Indicators for census year, age, foreign-born status, county of residence, urbanicity, number of children, spouse's age, spouse's occupation, and household wealth quartile.

⁹ While there existed a relationship between socioeconomic status and child mortality in this era (Preston and Haines 1991; Hacker et al. 2023), the relationship for adults is less clear (Ferrie 2003; Leonard et al. 2015).

¹⁰ See Section A.1 for the complete set of mortality codes used to identify accidental deaths. Note that for women, deaths related to childbirth are coded as accidental.

4.2 Results: Widows

I first examine how recent spousal death impacted the employment outcomes of widows. The primary outcome of interest is employment in the formal labor market. The 1870 and 1880 censuses do not contain information on labor force status or hours worked, therefore employment is defined as whether an individual held a “gainful occupation”. For women, this often meant working for wages outside of the household, and did not include housework.¹¹ I classify occupations into mutually exclusive categories to examine which occupations widows were likely to enter following their husband’s death. The primary grouping uses 1950 occupation codes and identifies high-skilled, semi-skilled, low-skilled, and farming occupations.¹² Note that industry was not separately recorded in the 1870 or 1880 censuses, which limits this analysis to occupation only.

Table 2 presents the results. In column 1, I estimate equation (1) using the full sample of widowed and married women in the linked censuses. In column 2, I add controls and propensity score matching weights, which restricts to women in the matched widows sample defined in Section 3.2. In column 3, I limit the sample to accidental deaths only, which are more likely to be exogenous to economic background and other determinants of mortality. Panel A reports coefficients for overall employment and Panels B–E report coefficients for high-skilled, semi-skilled, low-skilled, and farming occupations. In Panel F, I construct an indicator for whether the widow worked in the same occupation as her deceased husband, measured in the census prior to death.¹³

Starting with column 1, recently widowed women were 11 percentage points more likely to be employed within a year of their husband’s death. This represents a large increase relative to married women, whose employment rate was only 2 percent. The estimates are similar upon restricting the sample to matched women only (column 2) accidental deaths only (column 3). The estimated effects of widowhood on high-skilled, semi-skilled, and low-skilled employment (Panels B–D) range from 1 to 2 percentage points. Much of the increase in widows’ employment was driven by farming occupations (Panel E). In Panel F, the coefficient on employment in the same occupation as the

¹¹ For more discussion of how women were coded in the historical census, see Goldin (1990) and Chiswick and Robinson (2021). The definition of gainful employment using occupation codes is commonly used in related literature (Feigenbaum and Gross 2024; Arnsbarger et al. 2026).

¹² For similar classifications, see Long and Ferrie (2013) and Dupraz and Ferrara (2025).

¹³ I use occupation listed in the prior census because occupation in the digitized mortality censuses is largely missing (Hacker et al. 2025). The share of married men aged 16 and up with non-missing occupation is 18 percent in 1870 and 22 percent in 1880.

deceased husband is half the size of the overall employment effect. Among accidental deaths, the coefficient on husband’s occupation is only 3.5 percentage points, which suggests that fewer of these widows entered their husband’s occupation, a pattern I explore below.

4.2.1 Heterogeneity analysis

In this section, I discuss how widows’ employment varied by the occupation of her deceased husband, as well as other broad sources of heterogeneity. I consider how family structure, child gender, and child age affected the outcomes of widows and widowers in Section 5.

The husband’s occupation was an important determinant of the labor market outcomes of widows, who often took on their late husband’s work (Goldin 1986). I explore how the skill level of the husband’s occupation affected widows’ employment in Table B.4. Column 1 reports the coefficient on widowhood interacted with the husband’s occupational skill group, where high-skilled is the reference category. The overall employment effect was slightly stronger for widowed women whose husbands worked in farming occupations. Entry of women into high-skilled occupations was higher among women whose husband also worked in a high-skilled occupation (column 2). This result holds for semi-skilled, low-skilled, and farming occupations. As shown in column 6, these patterns are at least partly driven by women entering their deceased husband’s specific occupation. Women were relatively less likely to enter their husband’s occupation if it was semi-skilled or low-skilled. To better understand this pattern, I report the most commonly held occupations in Table B.2. Widows entered a small set of occupations held by their husbands, including baker (high-skilled), operative (semi-skilled), service worker (low-skilled), and farmer. The share of widows entering their husband’s occupation is notably lower for common semi-skilled and low-skilled jobs. For example, among deceased men who worked as managers, 9.6 percent of their widows reported a manager occupation. However, among men who worked as miners, no widows reported a mining occupation. This pattern explains why the coefficient on husband’s occupation in Table 2 is smaller for accidental deaths, which were more concentrated in heavy industries.

Figure B.2 shows heterogeneous effects of spousal death on widows’ employment for different characteristics. Several patterns are notable. Foreign-born women were more likely to be employed following spousal death, driven by high-skilled occupations. Urbanicity does not mediate overall

employment, but it does determine occupational composition. Rural women drove entrance into farming occupations, and this explains much of the effect on entrance into husband’s occupation. Conversely, urban women drove entrance into high-skilled occupations common in cities. I divide the sample into ten-year age bins and examine how employment varied with age. The largest employment effects are for women aged 25–34. The age gradient is strongest in low-skilled occupations and weakest in farming occupations. Regional heterogeneity is driven by industry composition, with the largest effect on employment being in the South, where farming dominated. Using household wealth measured from the prior census, the employment effect is weakest among widows from households in the top wealth quartile. The bottom fifty percent of the wealth distribution entered semi-skilled and low-skilled occupations at relatively high rates. Interestingly, the top fifty percent were most likely to enter the deceased husband’s occupation, a pattern likely due to farming and property wealth. I do not find evidence of heterogeneity in time since husband’s death.

4.2.2 Additional results: Black widows

Black households not only faced heightened mortality risk during this period (Feigenbaum et al. 2022; Antoine-Jones et al. 2023), but also different labor markets than white women (Boustan and Collins 2014). Black women were overrepresented among widowed households, one factor that drove high labor market participation (Goldin 1977). Results for black households are therefore reported separately. The construction of the analysis sample is identical to the process described in Section 3.2. Black widowed and married women in the linked censuses are matched using exact and propensity score matching, resulting in a sample of 628 black women.

The impact of widowhood on black women’s employment outcomes is reported in Table B.5. Column 1 reports results in the full sample of black women in the linked censuses. Column 2 reports results in the matched sample. Employment among married black women was about 20 percent, higher than married white women (2 percent). Even with higher baseline employment, spousal death resulted in a roughly 30 percentage point increase in employment, concentrated in low-skilled and farming occupations. Note that the subsample of accidental deaths among black widows is too small to obtain reliable estimates ($N = 24$).

4.3 Results: Widowers

I investigate the impact of spousal death on widowers in Appendix C. Causes of death for married women in 1870 and 1880 were primarily from infectious disease, however, an estimated 9 percent of the deaths were related to childbirth (Table A.1). Married women were comparatively less likely to die from violent or external factors than men. Since married women did not typically earn formal wages during this period, the wife’s death would have had a smaller average effect on household income. I expect *ex ante* that the average widower will be affected by the emotional toll of the loss and changes in household production, rather than the immediate loss of wage income.

Table C.3 reports results. In Panel A, widowers demonstrate slightly lower employment following the wife’s death, particularly in semi-skilled occupations. However, the estimated coefficients are small in magnitude and statistically noisy. Men did not enter the occupations of deceased wives, however, this is consistent with rare formal employment among married women and high baseline employment among men. In the matched widowers sample, only 1.6 percent of men had spouses with an occupation in the prior census. In Figure C.1, I explore sources of heterogeneity for the effects of widowhood. Most point estimates are statistically insignificant. These results suggest that the margin of adjustment for widowers was not in their own labor supply, however, the historical census does not capture the intensive margin of hours worked. I examine how the children of widowers were affected in Section 5.

5 Effects of Parental Death on Children

5.1 Sample construction

To identify the effects of parental death, children are matched using the same set of characteristics as in Section 3.2. I additionally impose an exact match on child gender and age. Table 3 reports balance statistics for children with deceased fathers and matched children with living fathers. I do not require that all matched children have a mother in the matched widows sample in Table 1. In Panel A (all deaths), the average age of children with deceased fathers (column 1) is 12 years old, with slightly older parents than children with living fathers (column 2). Relative to the full sample, the matched sample in column 3 is more likely to live on farms, but otherwise

their characteristics look similar. In Panel B (accidental deaths), the share of children on farms in the matched sample more closely aligns with the full population. The matched children with living fathers closely resemble children with deceased fathers, even for variables not targeted in the matching process. Table B.6 reports balance statistics for children with deceased and living mothers. Relative to the samples in Table 3, these children are from slightly younger families, but overall selection patterns are similar.

5.2 Results: Parental death

The estimation approach for children experiencing parental death is nearly identical to Section 4.1. I estimate the following model:

$$Y_i = \delta_0 + \delta_1 \textit{ParentDied}_i + \Phi \mathbf{X}_i + \nu_i, \quad (2)$$

where $\textit{ParentDied}_i$ is an indicator for whether the child’s father or mother died within the prior year. Controls are the full set of matching variables, including indicators for child gender and age. I estimate equation (2) separately for children with deceased fathers and mothers. Standard errors are clustered at the household level to account for within-household correlation in outcomes.

Table 4 presents the results for children whose father died in the last year (columns 1–3) or whose mother died in the last year (columns 4–6). I focus this analysis on children of schooling age (6 to 17). In columns 1 and 4, I estimate equation (2) using the full sample of children in the linked censuses. In columns 2 and 5, I add controls and propensity score matching weights, which restricts to children in the matched samples defined in Section 5.1. In columns 3 and 6, I limit the sample to accidental deaths only. Panel A examines whether the recent death of the parent affected the propensity of children to work. In 1870 and 1880, census enumerators were instructed to code children with an occupation so long as they were working regularly. In Panels B and C, I examine school enrollment. In 1870 and 1880, census enumerators were instructed to ask whether a child attended school within the year (the past 12 months, excluding Sunday and evening school). It is unclear how strongly enumerators adhered to this definition. For instance, if the father’s death resulted in a child dropping out of school within the past 12 months, the census enumerator may or may not have coded the child as attending school. I report results for full-time school (in school, no

occupation listed) in Panel B. I construct an additional indicator for working while in school and report results in Panel C. In Panel D, I construct an indicator for housework, a non-occupation code used by census enumerators. This indicator is mutually exclusive with the indicator for work in Panel A.

In Table 4, Panel A, children who recently lost their father were 3 percentage points more likely to have full-time employment (relative to a control mean of 7 percent). Upon limiting the sample to accidental deaths, the point estimate rises to 4 percentage points. By contrast, children who recently lost their mothers were not more likely to work. In Panel B, the coefficient on full-time schooling ranges from -2.7 to -4.6 percentage points for children who lost their father, and -2.0 to -3.3 percentage points for children who lost their mother. In Panel C, coefficients on part-time schooling are largely positive but statistically insignificant. This suggests that some children may have shifted toward part-time work following parental death. Finally, in Panel D, children were substantially more likely to have “housework” listed under occupation following the death of the mother. The census likely undercounted the number of children participating in household chores, but it offers insight into shifting time use. Interestingly, housework does not increase for death of the father, except in the sample of accidental deaths.

I examine heterogeneity in the effects of parental death by child gender and age in Figures 2 and 3. Estimates are from a specification with parental death interacted with indicators for child age, estimated on the subsamples of boys and girls in the matched child sample. In Figure 2, the effects of death of the father are concentrated among boys ages 11 and up. Coefficients on employment and schooling for girls are insignificant except at the older ages for schooling. Death of the mother also resulted in increases to employment and decreases to schooling for boys, however, effects are smaller in magnitude and not statistically significant. This suggests that the widower continued to provide household income and there was little benefit to the older boys entering the workforce. However, for older girls, the substitution away from both work and schooling suggests their time shifted toward household production. Indeed, results indicate that girls aged 12–17 were substantially more likely to be coded as performing housework after their mother’s death.

6 Conclusion

This paper examines how death affected surviving household members in the late nineteenth century United States. Becoming widowed within the last year increased the rate of formal employment among widows by 11 percentage points. I show that widows entered a wide variety of occupations, largely driven by the former occupation of the deceased husband. Effects are similar in a sample of unanticipated, plausibly random deaths, which suggests that selection into widowhood was limited in this time period. I examine corresponding effects of spousal death on widowers, finding little impact on formal employment. Given that households in 1870 and 1880 were highly specialized with men as the primary earners, the death of the wife forced other margins of adjustment. In the absence of a social safety net, much of the cost of adult mortality in the historical U.S. fell on children. I find a 2–4 percentage point decline in school enrollment immediately following parental death, with heterogeneous effects on work activities by gender. The death of the father resulted in children shifting toward market work, primarily older boys, whereas the death of the mother increased housework, primarily for girls. This pattern of results aligns with past research on division of labor following loss of a parent (Case et al. 2004; Ainsworth et al. 2005; Bai and Wang 2020; Guerrero 2025).

The results from this paper imply that efforts to lower adult mortality will benefit the next generation’s human capital. There exist important parallels between the historical United States and modern developing countries. In many regions, child labor laws lack strong enforcement, resulting in children who work out of necessity. The share of children ages 6 to 17 working full-time in 1870 and 1880 was 7.5 percent, comparable to India today (Bau et al. 2025). Simultaneously, while mortality has fallen worldwide over the past 100 years, rates of widowhood are still relatively high in countries like India, Egypt, Nigeria, and Russia (UN DESA 2019). Recent estimates place the number of widowed women at 250 million, many of them due to war and displacement (Chatterjee and Sisodia 2024). When evaluating present-day investments to lower adult mortality, it is necessary to consider that a portion of the returns will be intergenerational.

This paper leaves open several avenues for future research. Linked mortality and census records can be used to estimate remarriage rates, and future work can shed light on how remarriage mediates the effect of parental death on human capital. Female entrepreneurship following the death

of a male business owner is an area that is underexplored. Finally, extending these estimates to other countries would reveal the beneficial effects of mortality decline on human capital investment globally.

References

- Abramitzky, Ran, Leah Boustan, Katherine Eriksson, Myera Rashid, and Santiago Pérez (2022). *Census Linking Project*.
- Adda, Jerome, Anders Bjorklund, and Helena Holmlund (2011). *The Role of Mothers and Fathers in Providing Skills: Evidence from Parental Deaths*.
- Ager, Philipp, James Feigenbaum, Casper W Hansen, and Hui Ren Tan (2024). “How the Other Half Died: Immigration and Mortality in U.S. Cities”. *Review of Economic Studies* 91.1, pp. 1–44.
- Ainsworth, Martha, Kathleen Beegle, and Godlike Koda (2005). “The Impact of Adult Mortality and Parental Deaths on Primary Schooling in North-Western Tanzania”. *The Journal of Development Studies* 41.3, pp. 412–439.
- Aizer, Anna, Shari Eli, Joseph Ferrie, and Adriana Lleras-Muney (2016). “The Long-Run Impact of Cash Transfers to Poor Families”. *American Economic Review* 106.4, pp. 935–971.
- Anderson, Elisabeth, Sabino Kornrich, and Eman Abdelhadi (2023). “Carrots over Sticks? Mothers’ Pensions and Child Labor in the Early 20th Century U.S.” *Social Science History*, pp. 1–29.
- Antoine-Jones, Aja, James Feigenbaum, Lauren Hoehn-Velasco, Christopher Muller, and Elizabeth Wrigley-Field (2023). “Racial Inequality in the Prime of Life: Infectious Disease Mortality in U.S. Cities, 1906–1933”. *Social Science History* 47.3, pp. 491–504.
- Arnsbarger, Madison K., Andreas Ferrara, and Paige Montrose (2026). *The U.S. Civil War’s Impact on Women’s Work and Political Participation*. NBER Working Paper, 35287.
- Arteaga, Carolina, Natalia Vigezzi, and Pilar García-Gómez (2025). *Health Spillovers: The Broad Impact of Spousal Health Shocks*. NBER Working Paper, 33994.
- Bai, Jie and Yukun Wang (2020). “Returns to Work, Child Labor and Schooling: The Income Vs. Price Effects”. *Journal of Development Economics* 145, p. 102466.
- Bailey, Martha J., Connor Cole, Morgan Henderson, and Catherine Massey (2020). “How Well Do Automated Linking Methods Perform? Lessons from U.S. Historical Data”. *Journal of Economic Literature* 58.4, pp. 997–1044.
- Basu, Kaushik and Pham Hoang Van (1998). “The Economics of Child Labor”. *American Economic Review* 88.3, pp. 412–427.
- Bau, Natalie, Martin Rotemberg, Manisha Shah, and Bryce Steinberg (2025). *Human Capital Investment in the Presence of Child Labor*. Working paper.
- Beegle, Kathleen, Joachim De Weerd, and Stefan Dercon (2006). “Orphanhood and the Long-Run Impact on Children”. *American Journal of Agricultural Economics* 88.5, pp. 1266–1272.
- Beegle, Kathleen, Rajeev H. Dehejia, and Roberta Gatti (2006). “Child Labor and Agricultural Shocks”. *Journal of Development Economics* 81.1, pp. 80–96.
- Ben-Porath, Yoram (1967). “The Production of Human Capital and the Life Cycle of Earnings”. *Journal of Political Economy* 75.4, pp. 352–365.
- Bleakley, Hoyt (2007). “Disease and Development: Evidence from Hookworm Eradication in the American South”. *The Quarterly Journal of Economics* 122.1, pp. 73–117.

- Bleakley, Hoyt (2010). “Malaria Eradication in the Americas: A Retrospective Analysis of Childhood Exposure”. *American Economic Journal: Applied Economics* 2.2, pp. 1–45.
- Boustan, Leah Platt and William Collins (2014). “The Origins and Persistence of Black-White Differences in Women’s Labor Force Participation”. *Human Capital in History: The American Record*. University of Chicago Press, pp. 205–240.
- Braun, Sebastian T. and Jan Stuhler (2024). “The Economic Consequences of Being Widowed by War: A Life-Cycle Perspective”. *Journal of Public Economics* 239.105241.
- Carter, Susan B., Scott S. Gartner, Michael R. Haines, Alan L. Olmstead, Richard Sutch, and Gavin Wright, eds. (2006). *Historical Statistics of the United States: Earliest Times to the Present: Millennial Edition*. New York: Cambridge University Press.
- Cas, Ava Gail, Elizabeth Frankenberg, Wayan Suriastini, and Duncan Thomas (2014). “The Impact of Parental Death on Child Well-Being: Evidence From the Indian Ocean Tsunami”. *Demography* 51.2, pp. 437–457.
- Case, Anne, Christina Paxson, and Joseph Ableidinger (2004). “Orphans in Africa: Parental Death, Poverty, and School Enrollment”. *Demography* 41.3, pp. 483–508.
- Chatterjee, Saradamoyee and Anushka Sisodia (2024). *Not Leaving Widows Behind*. London, UK: The Loomba Foundation.
- Chen, Joyce J. (2012). “Dads, Disease, and Death: Determinants of Daughter Discrimination”. *Journal of Population Economics* 25.1, pp. 119–149.
- Chen, Stacey H., Yen-Chien Chen, and Jin-Tan Liu (2009). “The Impact of Unexpected Maternal Death on Education: First Evidence from Three National Administrative Data Links”. *AEA Papers and Proceedings* 99.2, pp. 149–153.
- Chiswick, Barry R. and RaeAnn Halenda Robinson (2021). “Women at Work in the United States Since 1860: An Analysis of Unreported Family Workers”. *Explorations in Economic History* 82, p. 101406.
- Condran, G. A. and E. Crimmins (1979). “A Description and Evaluation of Mortality Data in the Federal Census: 1850-1900”. *Historical Methods* 12.1, pp. 1–23.
- Costa, Dora L. (2015). “Health and the Economy in the United States from 1750 to the Present”. *Journal of Economic Literature* 53.3, pp. 503–570.
- Costa, Dora L., Noelle Yetter, and Heather DeSomer (2020). “Wartime Health Shocks and the Postwar Socioeconomic Status and Mortality of Union Army Veterans and Their Children”. *Journal of Health Economics* 70, p. 102281.
- Coyne, David, Itzik Fadlon, Shanthi P. Ramnath, and Patricia K. Tong (2024). “Household Labor Supply and the Value of Social Security Survivors Benefits”. *American Economic Review* 114.5, pp. 1248–1280.
- Cutler, David, Angus Deaton, and Adriana Lleras-Muney (2006). “The Determinants of Mortality”. *Journal of Economic Perspectives* 20.3, pp. 97–120.
- Daly, Moira, Mathias Fjællegaard Jensen, Nina Zhang, and Yunbin Zhang (2026). *Effects of Parental Death on Youth*. Working paper.
- Dribe, Martin, Enrico Debiassi, and Björn Eriksson (2022). “The Effect of Parental Loss on Social Mobility in Early Twentieth-Century Sweden”. *Demography* 59.3, pp. 1093–1115.
- Dupraz, Yannick and Andreas Ferrara (2025). “Fatherless: The Long-Term Effects of Losing a Father in the U.S. Civil War”. *Journal of Human Resources* 60.4, pp. 1126–1174.
- Edmonds, Eric V. and Nina Pavcnik (2005). “Child Labor in the Global Economy”. *Journal of Economic Perspectives* 19.1, pp. 199–220.
- Ehrlich, Isaac and Francis T. Lui (1991). “Intergenerational Trade, Longevity, and Economic Growth”. *Journal of Political Economy* 99.5, pp. 1029–1059.

- Eli, Shari and Laura Salisbury (2016). “Patronage Politics and the Development of the Welfare State: Confederate Pensions in the American South”. *The Journal of Economic History* 76.4, pp. 1078–1112.
- Evans, David K. and Edward Miguel (2007). “Orphans and Schooling in Africa: A Longitudinal Analysis”. *Demography* 44.1, pp. 35–57.
- Fadlon, Itzik, Astrid Sophie Fugleholm, and Torben Heien Nielsen (2026). “Survivors’ Mental Health and the Protective Role of Income Stability”. *American Economic Review: Insights* 8.2, pp. 265–284.
- Fadlon, Itzik and Torben Heien Nielsen (2019). “Family Health Behaviors”. *American Economic Review* 109.9, pp. 3162–3191.
- (2021). “Family Labor Supply Responses to Severe Health Shocks: Evidence from Danish Administrative Records”. *American Economic Journal: Applied Economics* 13.3, pp. 1–30.
- Feigenbaum, James and Daniel Gross (2024). “Answering the Call of Automation: How the Labor Market Adjusted to Mechanizing Telephone Operation”. *The Quarterly Journal of Economics* 139.3, pp. 1879–1939.
- Feigenbaum, James, Lauren Hoehn-Velasco, Christopher Muller, and Elizabeth Wrigley-Field (2022). “1918 Every Year: Racial Inequality in Infectious Mortality, 1906–1942”. *AEA Papers and Proceedings* 112, pp. 199–204.
- Feigenbaum, James, Christopher Muller, and Elizabeth Wrigley-Field (2019). “Regional and Racial Inequality in Infectious Disease Mortality in U.S. Cities, 1900–1948”. *Demography* 56.4, pp. 1371–1388.
- Ferrie, Joseph P (1996). “A New Sample of Males Linked from the Public Use Micro Sample of the 1850 U.S. Federal Census of Population to the 1860 U.S. Federal Census Manuscript Schedules”. *Historical Methods* 29, pp. 141–156.
- (2003). “The Rich and the Dead: Socioeconomic Status and Mortality in the United States, 1850–1860”. *Health and Labor Force Participation over the Life Cycle: Evidence from the Past*. Ed. by Dora L. Costa. University of Chicago Press.
- Fishback, Price Van Meter and Shawn Everett Kantor (2000). “Compensation for Accidents before Workers’ Compensation”. *A Prelude to the Welfare State: The Origins of Workers’ Compensation*. NBER Series on Long-Term Factors in Economic Development. Chicago: University of Chicago Press, pp. 28–53.
- Fortson, Jane G (2011). “Mortality Risk and Human Capital Investment: The Impact of HIV/AIDS in Sub-Saharan Africa”. *Review of Economics and Statistics* 93.1, pp. 1–15.
- Garcia-Brazales, Javier (2023). “Orphanhood and Child Development: Evidence From India”. *Demography* 60.2, pp. 517–537.
- Garin, Andrew and Jonathan Rothbaum (2025). “The Long-Run Impacts of Public Industrial Investment on Local Development and Economic Mobility: Evidence from World War II”. *The Quarterly Journal of Economics* 140.1, pp. 459–520.
- Gimenez, Lea, Shin-Yi Chou, Jin-Tan Liu, and Jin-Long Liu (2013). “Parental Loss and Children’s Well-Being”. *Journal of Human Resources* 48.4, pp. 1035–1071.
- Goldin, Claudia (1977). “Female Labor Force Participation: The Origin of Black and White Differences, 1870 and 1880”. *The Journal of Economic History* 37.1, pp. 87–108.
- (1979). “Household and Market Production of Families in a Late Nineteenth Century American City”. *Explorations in Economic History* 16, pp. 111–131.
- (1986). “The Economic Status of Women in the Early Republic: Quantitative Evidence”. *The Journal of Interdisciplinary History* 16.3, pp. 375–404.
- (1990). *Understanding the Gender Gap: An Economic History of American Women*. Vol. 96. New York, NY: Oxford University Press.
- (1991). “The Role of World War II in the Rise of Women’s Employment”. *American Economic Review* 81.4, pp. 741–756.

- Goldstein, Ezra G. (2025). “A Mighty Toll: Mine Accidents and the Long-Run Effect of Losing a Father Among Sons”. *Journal of Human Resources*, forthcoming.
- Guerrero, Rodrigo (2025). *Parental Death and Schooling Decisions: Gendered Division of Labor and Parental Preferences*. Working paper.
- Hacker, J. David (2010). “Decennial Life Tables for the White Population of the United States, 1790–1900”. *Historical Methods: A Journal of Quantitative and Interdisciplinary History* 43.2, pp. 45–79.
- Hacker, J. David, Martin Dribe, and Jonas Helgertz (2023). “Wealth and Child Mortality in the Nineteenth-Century United States: Evidence from Three Panels of American Couples, 1850–1880”. *Social Science History* 47.3, pp. 333–366.
- Hacker, J. David, Lap Huynh, Susan H. Leonard, Matt A. Nelson, Evan Roberts, and Matthew Sobek (2025). “IPUMS Full Count Datasets of the United States Censuses of Mortality, 1850–1880”. *Historical Methods* 58.4, pp. 231–245.
- Haines, Michael R. (1979). “The Use of Model Life Tables to Estimate Mortality for the United States in the Late Nineteenth Century”. *Demography* 16.2, pp. 289–312.
- (2001). *The Urban Mortality Transition in the United States, 1800–1940*. NBER Historical Paper, 134.
- Horrell, Sara and Jane Humphries (1995). “Women’s Labour Force Participation and the Transition to the Male-Breadwinner Family, 1790–1865”. *The Economic History Review* 48.1, pp. 89–117.
- Humphries, Jane (2003). “Child Labor: Lessons from the Historical Experience of Today’s Industrial Economies”. *The World Bank Economic Review* 17.2, pp. 175–196.
- Hurd, Michael D. and David A. Wise (1989). “The Wealth and Poverty of Widows: Assets Before and After the Husband’s Death”. *The Economics of Aging*. Chicago, IL: University of Chicago Press, pp. 177–200.
- Jann, Ben (2017). *Kmatch: Stata Module for Multivariate-Distance and Propensity-Score Matching, Including Entropy Balancing, Inverse Probability Weighting, (Coarsened) Exact Matching, and Regression Adjustment*.
- Jayachandran, Seema and Adriana Lleras-Muney (2009). “Life Expectancy and Human Capital Investments: Evidence from Maternal Mortality Declines”. *The Quarterly Journal of Economics* 124.1, pp. 349–397.
- Kalemli-Ozcan, Sebnem (2002). “Does the Mortality Decline Promote Economic Growth?” *Journal of Economic Growth* 7, pp. 411–439.
- Kalemli-Ozcan, Sebnem, Harl E. Ryder, and David N. Weil (2000). “Mortality Decline, Human Capital Investment, and Economic Growth”. *Journal of Development Economics* 62, pp. 1–23.
- Kalil, Ariel, Magne Mogstad, Mari Rege, and Mark E. Votruba (2015). “Father Presence and the Intergenerational Transmission of Educational Attainment”. *Journal of Human Resources* 51.4, pp. 869–899.
- Kleinberg, S.J. (2006). *Widows and Orphans First: The Family Economy and Social Welfare Policy, 1880–1939*. University of Illinois Press.
- Leonard, Susan Hautaniemi, Christopher Robinson, Alan C. Swedlund, and Douglas Anderton (2015). “The Effects of Wealth, Occupation, and Immigration on Epidemic Mortality from Selected Infectious Diseases and Epidemics in Holyoke Township, Massachusetts, 1850–1912”. *Demographic Research* 33, pp. 1035–1046.
- Liu, Can, Alessandra Grotta, Ayako Hiyoshi, Lisa Berg, and Mikael Rostila (2022). “School Outcomes Among Children Following Death of a Parent”. *JAMA Network Open* 5.4, e223842.
- Liu, Hui, Debra Umberson, and Minle Xu (2020). “Widowhood and Mortality: Gender, Race/Ethnicity, and the Role of Economic Resources”. *Annals of Epidemiology* 45, pp. 69–75.
- Long, Jason and Joseph Ferrie (2013). “Intergenerational Occupational Mobility in Great Britain and the United States since 1850”. *American Economic Review* 103.4, pp. 1109–1137.

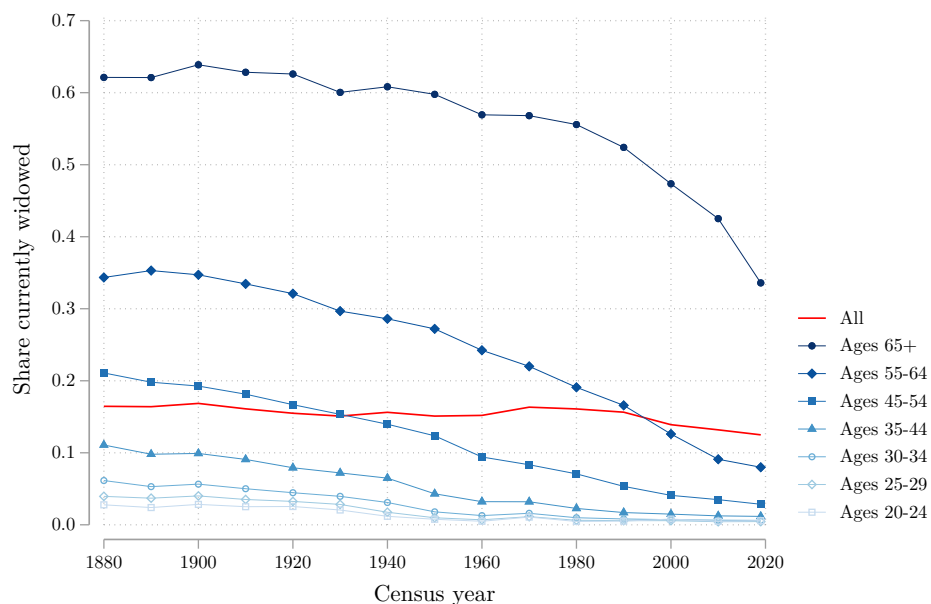
- Lorentzen, Peter, John McMillan, and Romain Wacziarg (2008). “Death and Development”. *Journal of Economic Growth* 13.2, pp. 81–124.
- Manacorda, Marco (2006). “Child Labor and the Labor Supply of Other Household Members: Evidence from 1920 America”. *American Economic Review* 96.5, pp. 1788–1801.
- Moehling, Carolyn M. (1999). “State Child Labor Laws and the Decline of Child Labor”. *Explorations in Economic History* 36.1, pp. 72–106.
- (2002). “Broken Homes: The “Missing” Children of the 1910 Census”. *The Journal of Interdisciplinary History* 33.2, pp. 205–233.
- (2004). “Family Structure, School Attendance, and Child Labor in the American South in 1900 and 1910”. *Explorations in Economic History* 41.1, pp. 73–100.
- Moon, J. Robin, M. Maria Glymour, Anusha M. Vable, Sze Y. Liu, and S. V. Subramanian (2014). “Short- and Long-Term Associations between Widowhood and Mortality in the United States: Longitudinal Analyses”. *Journal of Public Health* 36.3, pp. 382–389.
- Oster, Emily, Ira Shoulson, and E. Ray Dorsey (2013). “Limited Life Expectancy, Human Capital and Health Investments”. *American Economic Review* 103.5, pp. 1977–2002.
- Parsons, Donald O. and Claudia Goldin (1989). “Parental Altruism and Self-Interest: Child Labor Among Late Nineteenth-Century American Families”. *Economic Inquiry* 27.4, pp. 637–659.
- Preston, Samuel H. and Michael R. Haines (1991). *Fatal Years: Child Mortality in Late Nineteenth-Century America*. NBER Series on Long-Term Factors in Economic Development. Princeton, N.J: Princeton University Press.
- Price, Joseph, Kasey Buckles, Jacob Van Leeuwen, and Isaac Riley (2021). “Combining Family History and Machine Learning to Link Historical Records: The Census Tree Data Set”. *Explorations in Economic History* 80.101391.
- Rodin, Rebecca, Alexander K. Smith, Edie Espejo, Siqi Gan, W. John Boscardin, Lauren J. Hunt, Katherine A. Ornstein, and R. Sean Morrison (2024). “Mortality and Function After Widowhood Among Older Adults With Dementia, Cancer, or Organ Failure”. *JAMA Network Open* 7.9, e2432979.
- Ruggles, Steven (2003). “Multigenerational Families in Nineteenth-Century America”. *Continuity and Change* 18.1, pp. 139–165.
- Ruggles, Steven, Sarah Flood, Matthew Sobek, Daniel Backman, Grace Cooper, Julia A. Rivera Drew, Stephanie Richards, Renae Rodgers, Jonathan Schroeder, and Kari C.W. Williams (2025). *IPUMS USA: Version 16.0 [Dataset]*. Minneapolis, MN: IPUMS.
- Ruggles, Steven, Nesile Ozder, Catherine A. Fitch, Matthew Sobek, Julia A. Rivera Drew, J. David Hacker, Jonas Helgertz, Cheyenne Lonobile, Matt A. Nelson, Evan Roberts, and John Robert Warren (2025). *IPUMS Multigenerational Longitudinal Panel: Version 2.0*. Minneapolis, MN: IPUMS.
- Salisbury, Laura (2017). “Women’s Income and Marriage Markets in the United States: Evidence from the Civil War Pension”. *The Journal of Economic History* 77.1, pp. 1–38.
- Sevak, Purvi, David R. Weir, and Robert J. Willis (2004). “The Economic Consequences of a Husband’s Death: Evidence from the HRS and AHEAD”. *Social Security Bulletin* 65.3, pp. 31–44.
- Shatnawi, Dina and Price Fishback (2018). “The Impact of World War II on the Demand for Female Workers in Manufacturing”. *The Journal of Economic History* 78.2, pp. 539–574.
- Shaw-Taylor, Leigh (2020). “An Introduction to the History of Infectious Diseases, Epidemics and the Early Phases of the Long-Run Decline in Mortality”. *Economic History Review* 73.3, E1–E19.
- Smith, Ken R., Cathleen D. Zick, and Greg J. Duncan (1991). “Remarriage Patterns among Recent Widows and Widowers”. *Demography* 28.3, pp. 361–374.

- Soares, Rodrigo R (2005). “Mortality Reductions, Educational Attainment, and Fertility Choice”. *American Economic Review* 95.3, pp. 580–601.
- Song, Xi, Catherine G. Massey, Karen A. Rolf, Joseph P. Ferrie, Jonathan L. Rothbaum, and Yu Xie (2020). “Long-Term Decline in Intergenerational Mobility in the United States Since the 1850s”. *Proceedings of the National Academy of Sciences* 117.1, pp. 251–258.
- United Nations Department of Economic and Social Affairs, Population Division (2019). *World Marriage Data 2019*.
- Van Poppel, Frans (1995). “Widows, Widowers and Remarriage in Nineteenth-Century Netherlands”. *Population Studies* 49.3, pp. 421–441.
- Weil, David N. (2007). “Accounting for the Effect of Health on Economic Growth”. *The Quarterly Journal of Economics* 122.3, pp. 1265–1306.

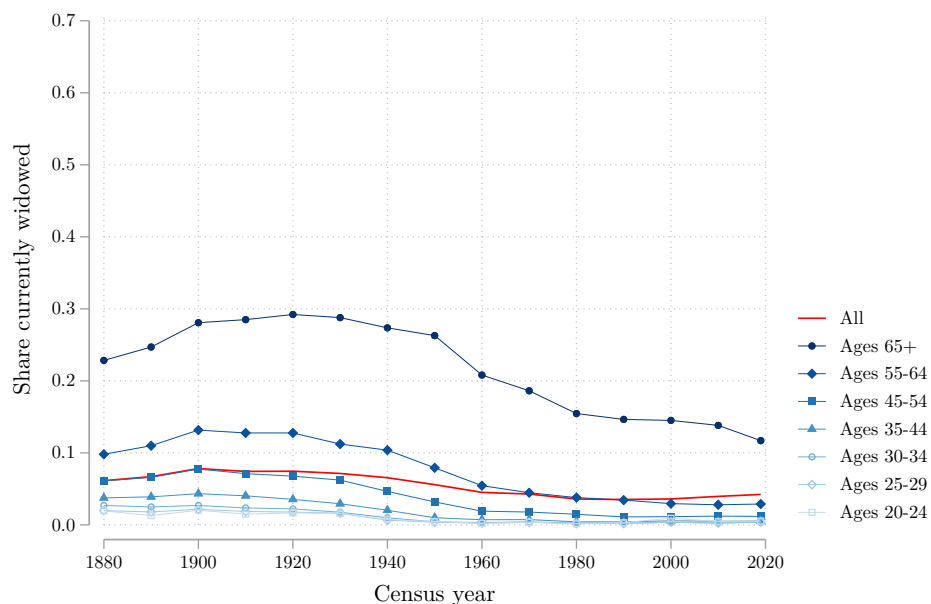
7 Figures

Figure 1: Rates of widowhood in the United States

(a) Women

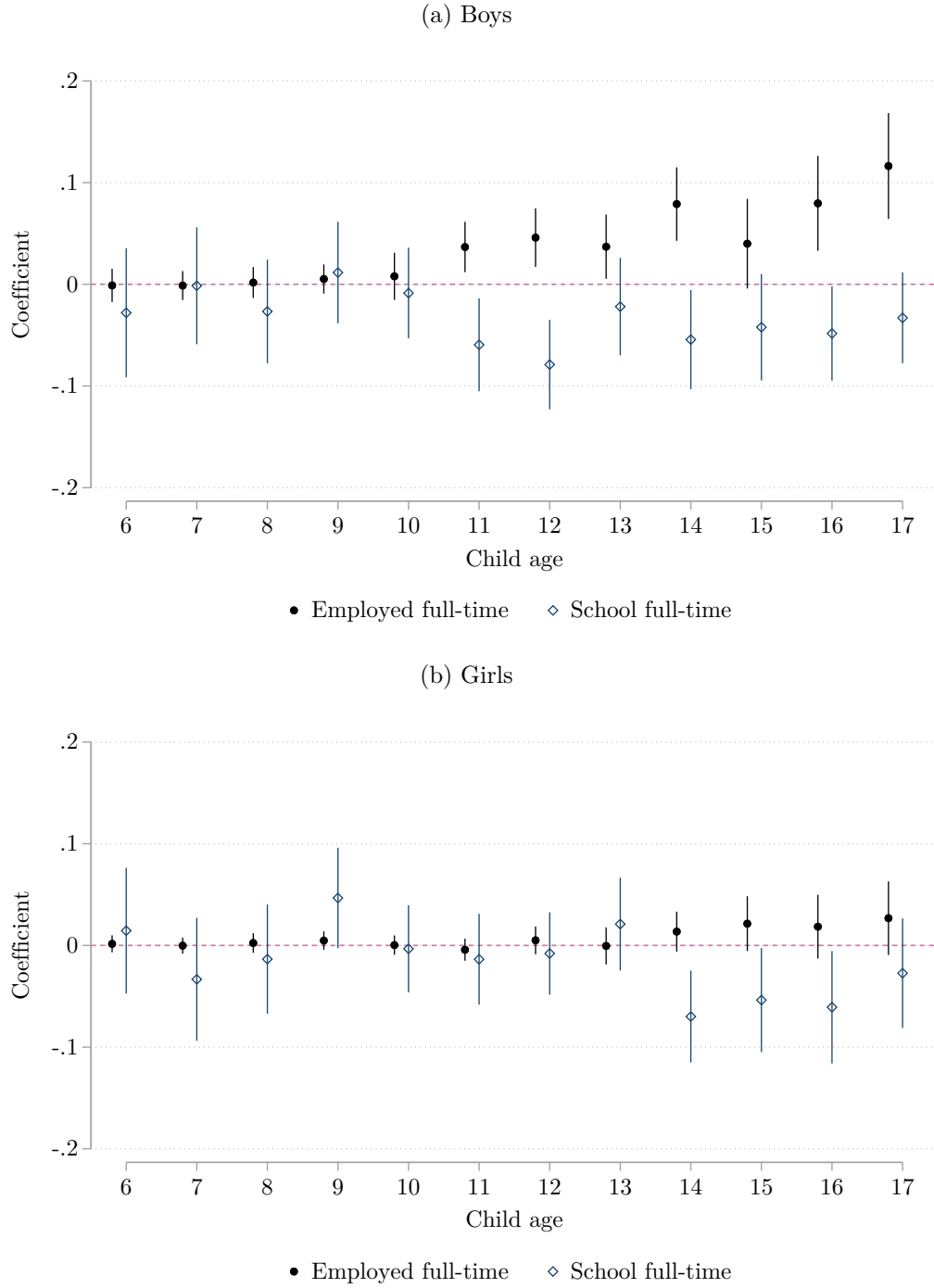


(b) Men



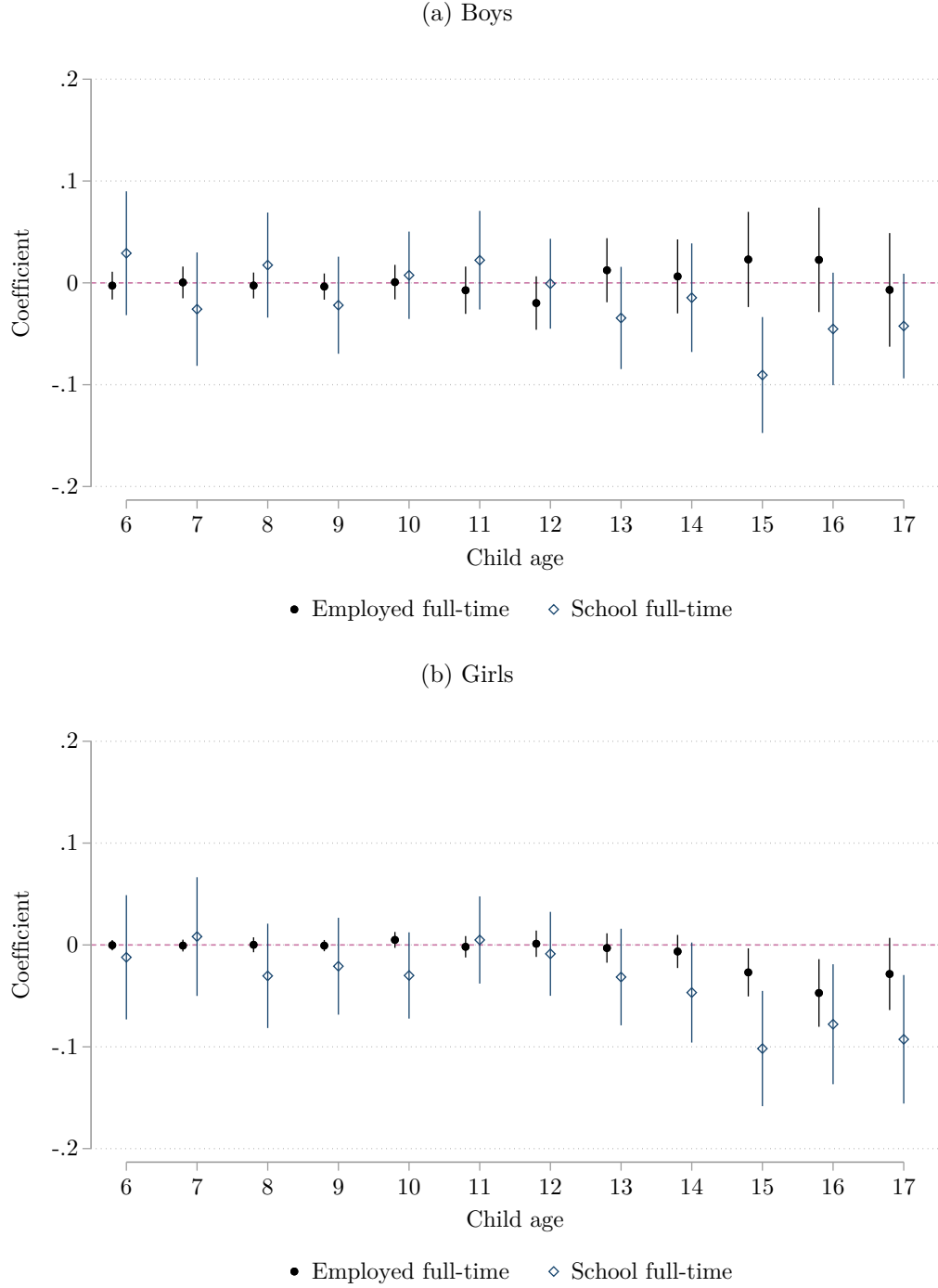
Notes: Figure shows rates of widowhood among ever-married (a) women and (b) men ages 20+, 1880–2019. Values for 1880 and 1900–2000 are calculated using IPUMS 1% Census samples. Values for 1890 are calculated using *Historical Statistics of the United States, Millennial Edition* (Carter et al. 2006), Table Aa614–683, “Population, by marital status, sex, and race: 1880–1990.” Values for 2010 and 2019 are calculated using the American Community Survey (Ruggles, Flood, et al. 2025).

Figure 2: Effects of paternal death by gender and age



Notes: Figure shows coefficients for the impact of paternal death on (a) boys and (b) girls, estimated using the matched sample described in Section 5.1. Coefficients are an indicator for paternal death interacted with indicators for each age. Outcomes are employment, defined as any gainful occupation, and full-time schooling, defined as in school with no occupation listed. All regressions use controls and matching weights, with standard errors clustered at the household level. 95 percent confidence intervals are displayed.

Figure 3: Effects of maternal death by gender and age



Notes: Figure shows coefficients for the impact of maternal death on (a) boys and (b) girls, estimated using the matched sample described in Section 5.1. Coefficients are an indicator for maternal death interacted with indicators for each age. Outcomes are employment, defined as any gainful occupation, and full-time schooling, defined as in school with no occupation listed. All regressions use controls and matching weights, with standard errors clustered at the household level. 95 percent confidence intervals are displayed.

8 Tables

Table 1: Balance – Widowed and married women

	Linked census		Matched sample	
	Widowed (1)	Married (2)	Widowed (3)	Married (4)
<i>Panel A: All deaths</i>				
<i>Targeted in matching</i>				
Age	44.338	41.279	44.360	44.334
Foreign-born	0.232	0.216	0.217	0.217
Urban	0.212	0.225	0.192	0.192
Farm	0.462	0.444	0.535	0.536
Has children	0.960	0.893	0.972	0.972
Number of children	3.748	2.978	3.832	3.755
Husband employed	0.930	0.925	0.936	0.936
Husband age	49.661	46.433	49.606	49.528
Household wealth quartile	2.842	2.729	2.869	2.876
<i>Not targeted in matching</i>				
Literate	0.870	0.887	0.865	0.862
Employed	0.028	0.026	0.024	0.021
Husband foreign-born	0.254	0.240	0.242	0.234
Husband literate	0.904	0.914	0.898	0.900
Observations	10,389	3,801,457	8,698	9,162
<i>Panel B: Accidental deaths</i>				
<i>Targeted in matching</i>				
Age	43.164	41.279	43.135	43.209
Foreign-born	0.317	0.216	0.309	0.309
Urban	0.236	0.225	0.225	0.225
Farm	0.398	0.444	0.452	0.462
Has children	0.956	0.893	0.974	0.974
Number of children	3.606	2.978	3.691	3.587
Husband employed	0.927	0.925	0.940	0.940
Husband age	47.681	46.433	47.705	47.589
Household wealth quartile	2.675	2.729	2.687	2.652
<i>Not targeted in matching</i>				
Literate	0.845	0.887	0.823	0.850
Employed	0.028	0.026	0.023	0.023
Husband foreign-born	0.339	0.240	0.327	0.282
Husband literate	0.907	0.914	0.891	0.888
Observations	505	3,801,457	431	470

Notes: Means for widowed and married women are reported. Columns 1 and 2 report means in the full linked censuses. Columns 3 and 4 restrict to the matched sample described in Section 3.2. Panel A includes widows experiencing spousal death from all causes and Panel B includes widows experiencing spousal death from accidental causes only. Targeted variables are used in the construction of the matched sample. All variables are measured in the census prior to widowhood except age, which is measured at the time of widowhood.

Table 2: Effects of recent spousal death on widows' employment

	Outcome: Employed		
	(1)	(2)	(3)
<i>Panel A: All occupations</i>			
Widowed in the last year	0.110*** (0.004)	0.111*** (0.004)	0.107*** (0.020)
Control mean	0.020	0.018	0.023
<i>Panel B: High-skilled</i>			
Widowed in the last year	0.021*** (0.002)	0.020*** (0.002)	0.015** (0.007)
Control mean	0.003	0.001	0.002
<i>Panel C: Semi-skilled</i>			
Widowed in the last year	0.013*** (0.001)	0.012*** (0.001)	0.020** (0.009)
Control mean	0.004	0.003	0.009
<i>Panel D: Low-skilled</i>			
Widowed in the last year	0.016*** (0.002)	0.015*** (0.002)	0.021* (0.011)
Control mean	0.012	0.013	0.011
<i>Panel E: Farmers</i>			
Widowed in the last year	0.060*** (0.003)	0.065*** (0.004)	0.050*** (0.012)
Control mean	0.001	0.001	0.002
<i>Panel F: Husband's occupation</i>			
Widowed in the last year	0.054*** (0.003)	0.061*** (0.003)	0.035*** (0.010)
Control mean	0.007	0.006	0.009
Observations	3,811,846	17,860	901
Controls	N	Y	Y
Matching weights	N	Y	Y
Accidental deaths only	N	N	Y

Notes: Table reports estimates of equation (1). The outcome is any employment, defined as any gainful occupation. Column 1 reports results using the full linked censuses. Column 2 adds controls and matching weights, restricting the sample to the matched widows sample described in Section 3.2. Column 3 restricts the matched sample to accidental deaths only. Panel A reports the effect of widowhood on employment in all occupations. Panels B–E report the effect of widowhood on employment in high-skilled, semi-skilled, low-skilled, and farming occupations. Panel F reports the effect of widowhood on employment in the same occupation as the deceased husband. Standard errors clustered at the county level in parentheses. * $p < 0.10$; ** $p < 0.05$; *** $p < 0.01$.

Table 3: Balance – Children with deceased and living fathers

	Linked census		Matched sample	
	Father deceased	Father alive	Father deceased	Father alive
	(1)	(2)	(3)	(4)
<i>Panel A: All deaths</i>				
<i>Targeted in matching</i>				
Female	0.490	0.490	0.487	0.487
Age	11.815	11.342	11.859	11.859
Mother age	42.786	40.351	42.685	42.637
Mother foreign-born	0.267	0.240	0.227	0.227
Urban	0.197	0.199	0.142	0.142
Farm	0.482	0.477	0.673	0.674
Number of siblings	3.266	2.600	3.365	3.314
Father employed	0.933	0.927	0.950	0.950
Father age	48.116	45.596	47.813	47.773
Household wealth quartile	2.765	2.692	2.853	2.861
<i>Not targeted in matching</i>				
Mother literate	0.848	0.868	0.838	0.836
Mother employed	0.027	0.025	0.026	0.024
Father foreign-born	0.294	0.267	0.254	0.251
Father literate	0.889	0.901	0.880	0.877
Observations	23,896	8,797,770	14,507	14,595
<i>Panel B: Accidental deaths</i>				
<i>Targeted in matching</i>				
Female	0.510	0.490	0.499	0.499
Age	11.552	11.342	11.509	11.509
Mother age	42.263	40.351	41.945	41.865
Mother foreign-born	0.355	0.240	0.313	0.313
Urban	0.212	0.199	0.199	0.199
Farm	0.423	0.477	0.561	0.567
Number of siblings	3.120	2.600	3.152	3.117
Father employed	0.930	0.927	0.964	0.964
Father age	46.898	45.596	46.772	46.447
Household wealth quartile	2.574	2.692	2.629	2.660
<i>Not targeted in matching</i>				
Mother literate	0.812	0.868	0.784	0.788
Mother employed	0.030	0.025	0.030	0.024
Father foreign-born	0.380	0.267	0.357	0.326
Father literate	0.893	0.901	0.867	0.863
Observations	1,242	8,797,770	788	795

Notes: Means for children with deceased and living fathers are reported. Columns 1 and 2 report means in the full linked censuses. Columns 3 and 4 restrict to the matched sample described in Section 5.1. Panel A includes children experiencing paternal death from all causes and Panel B includes children experiencing paternal death from accidental causes only. Targeted variables are used in the construction of the matched sample. All variables are measured in the census prior to paternal death except gender and age, which are measured at the time of paternal death.

Table 4: Effects of parental death on children

	Father deceased			Mother deceased		
	(1)	(2)	(3)	(4)	(5)	(6)
<i>Panel A: Work full-time</i>						
Parent died in the last year	0.032*** (0.002)	0.024*** (0.003)	0.034** (0.014)	−0.001 (0.002)	−0.004 (0.003)	0.007 (0.006)
Control mean	0.067	0.074	0.074	0.064	0.063	0.043
<i>Panel B: School full-time</i>						
Parent died in the last year	−0.046*** (0.004)	−0.027*** (0.006)	−0.042* (0.023)	−0.033*** (0.005)	−0.026*** (0.006)	−0.034* (0.017)
Control mean	0.618	0.596	0.603	0.622	0.619	0.628
<i>Panel C: Work and school</i>						
Parent died in the last year	0.013*** (0.002)	−0.000 (0.003)	0.003 (0.013)	0.012*** (0.002)	0.003 (0.003)	0.004 (0.009)
Control mean	0.055	0.079	0.081	0.053	0.072	0.065
<i>Panel D: Housework</i>						
Parent died in the last year	−0.002** (0.001)	−0.002* (0.001)	0.009*** (0.003)	0.065*** (0.002)	0.067*** (0.002)	0.073*** (0.005)
Control mean	0.009	0.011	0.004	0.009	0.009	0.006
Observations	8,821,666	29,102	1,583	8,241,807	27,149	3,263
Controls	N	Y	Y	N	Y	Y
Matching weights	N	Y	Y	N	Y	Y
Accidental deaths only	N	N	Y	N	N	Y

Notes: Table reports estimates of equation (2). Parent died is an indicator for whether the father (columns 1–3) or mother (columns 4–6) died within the past year. Columns 1 and 4 report results using the full linked censuses. Columns 2 and 5 add controls and matching weights, restricting the sample to the matched child samples described in Section 5.1. Columns 3 and 6 restrict the matched sample to accidental deaths only. Panel A reports results for full-time work, defined as any gainful occupation and not in school. Panel B reports results for full-time schooling, defined as in school with no occupation listed. Panel C reports results for an indicator that the child is both at work and in school. Panel D reports results for whether a child’s occupation code falls under housework. Standard errors clustered at the household level in parentheses. * $p < 0.10$; ** $p < 0.05$; *** $p < 0.01$.

A Data Appendix

A.1 Censuses of mortality

The censuses of mortality have been digitized and are freely available to researchers via IPUMS. The records contain sex, race, age, nativity, marital status, birthplace, cause of death, month of death, county, and occupation (though this field is mostly missing). Cause of death strings are categorized according to the International List of Causes of Death, revision 2 (ILCD-2 1909). I group these codes into broad categories:

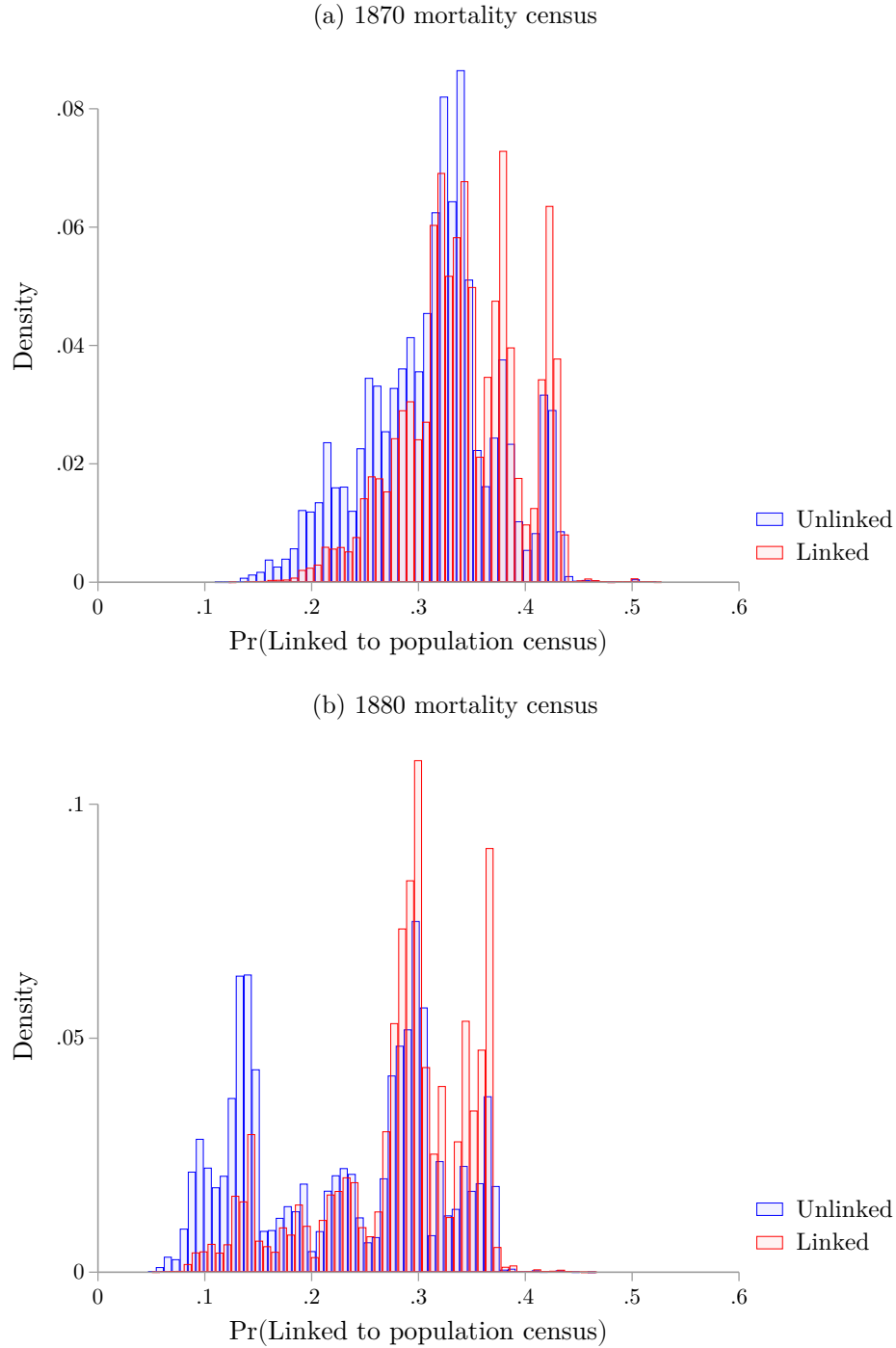
- *Infectious disease* (ILCD-2 codes 1–35), e.g., tuberculosis, typhoid fever, measles, influenza
- *Nervous system* (ILCD-2 codes 60–76), e.g., meningitis, encephalitis, epilepsy, apoplexy
- *Circulatory system* (ILCD-2 codes 77–86), e.g., pericarditis, endocarditis, myocarditis, angina
- *Respiratory system* (ILCD-2 codes 87–98), e.g., pneumonia, bronchitis, pleurisy, asthma
- *Digestive system* (ILCD-2 codes 99–118), e.g., diarrhea, gastroenteritis, cirrhosis, ulcer
- *Other general* (ILCD-2 codes 36–59, 119–133, 142–154), e.g., cancer, diabetes, alcoholism
- *Maternal/childbirth* (ILCD-2 codes 134–141), e.g., hemorrhage, premature birth
- *Violent/external* (ILCD-2 codes 155–186), e.g., accidents, suicide, homicide
- *Unclassified/unknown* (ILCD-2 codes 187–199, 999)

I also identify plausibly accidental deaths (ILCD-2 codes in parentheses): poisoning (164–165), burns (167), asphyxiation (168), drowning (169), firearms (170), fall (172), occupational injury (173–175), injury from animals (176), hypothermia (178), heat stroke (179), lightning/electricity (180–181), fractures (185), and other acts of violence excluding suicides (186). Deaths related to childbirth are coded as accidental.

The task of linking the mortality census to the population census, undertaken by Hacker et al. (2025), was met with several challenges. For instance, many families with the same surname living in close proximity make it difficult to pinpoint the family that the deceased belonged to. However, the presence of family number starting in 1870 makes the linking task feasible for 1870 and 1880. See Hacker et al. (2025) for a complete description of the linking process. Statistics for the full and linked mortality records are reported in Table A.1. I report statistics for the full mortality census (column 1) and the linked sample (column 2). The linked individuals are more likely to be native-born and rural. Causes of death look similar in the full and linked populations. I additionally report statistics for two subgroups: married men aged 16+ (columns 4–6) and married women aged 16+ (columns 7–9). The sample in column 5, married men over age 16 who are linked to a household in the population census, forms the basis for identification of widows. Similarly, the sample in column 8 forms the basis for the identification of widowers.

The link from the mortality census to the population census is not complete, resulting in a linkage rate of 50 percent and 34 percent in 1870 and 1880, respectively. One approach to improve representativeness of the linked sample is to construct inverse propensity score weights based on observable characteristics, effectively reweighting the linked sample to look like the full population (Bailey et al. 2020). To construct the weights, I estimate a probit that predicts linkage to the population census using gender, race, nativity, marital status, age, region, urbanicity, cause of death, and the interaction of race with gender, age, and region. I report the distribution of propensity scores in Figure A.1. The propensity score distributions for the 1870 and 1880 censuses show strong overlap between the linked and unlinked populations. In Table A.1, I report the inverse propensity score weighted sample means in columns 3, 6, and 9, where propensity scores are estimated separately for each subgroup. Characteristics of the linked sample look highly similar to the full population after reweighting.

Figure A.1: Censuses of mortality — Propensity to link to the population census



Notes: Figure shows the distribution of estimated propensity scores in 1870 (a) and 1880 (b). Propensity scores represent the probability that an observation in the mortality census appears in the sample linked to the population census, estimated using observable characteristics: gender, race, nativity, marital status, age, region, urbanicity, cause of death, and the interaction of race with gender, age, and region. Unlinked (linked) observations are shown in blue (red).

Table A.1: Censuses of mortality — Descriptive statistics

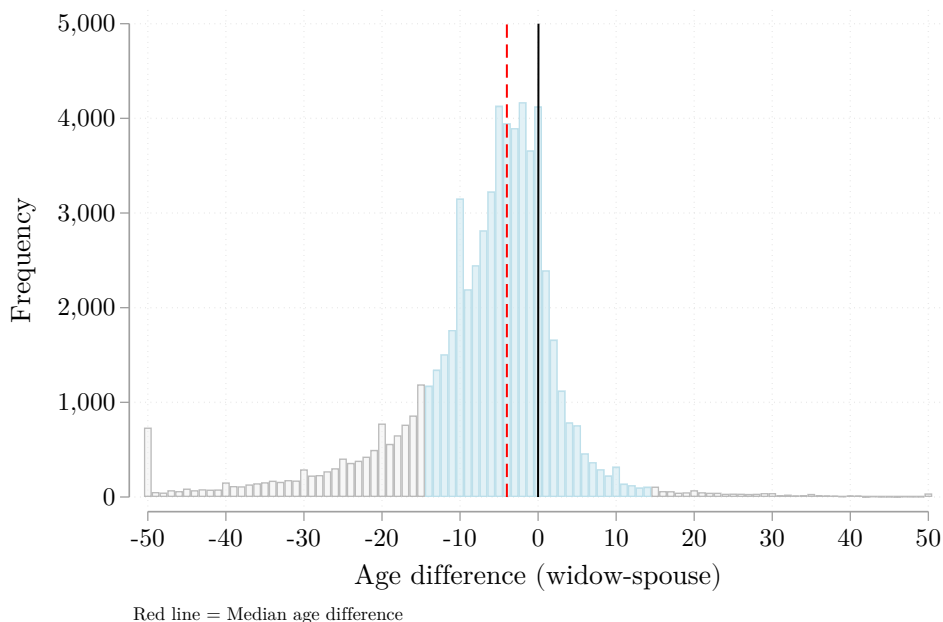
				Married men aged 16+			Married women aged 16+		
	Full	Linked	Linked weighted	Full	Linked	Linked weighted	Full	Linked	Linked weighted
<i>Year: 1870</i>	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Age	24.808	22.736	24.740	51.576	52.175	51.649	42.398	42.909	42.465
Urban	0.360	0.298	0.356	0.317	0.284	0.318	0.273	0.222	0.272
Black	0.145	0.130	0.146	0.106	0.091	0.106	0.122	0.108	0.123
Foreign-born	0.136	0.104	0.132	0.275	0.254	0.274	0.224	0.199	0.222
Female	0.468	0.467	0.469	-	-	-	-	-	-
Married	0.261	0.282	0.265	-	-	-	-	-	-
Widowed	0.082	0.061	0.083	-	-	-	-	-	-
<i>Cause of death</i>									
Infectious disease	0.356	0.373	0.357	0.332	0.338	0.333	0.378	0.384	0.379
Nervous system	0.117	0.119	0.117	0.093	0.094	0.093	0.072	0.072	0.072
Circulatory system	0.031	0.031	0.031	0.059	0.064	0.059	0.053	0.057	0.053
Respiratory system	0.104	0.099	0.104	0.134	0.130	0.134	0.104	0.099	0.104
Digestive system	0.106	0.111	0.106	0.064	0.066	0.064	0.062	0.062	0.061
Other general	0.083	0.068	0.082	0.097	0.091	0.097	0.086	0.080	0.086
Maternal/childbirth	0.014	0.015	0.014	0.001	0.001	0.001	0.087	0.091	0.088
Violent/external	0.042	0.037	0.042	0.065	0.061	0.065	0.014	0.011	0.014
Unclassified/unknown	0.147	0.146	0.147	0.154	0.155	0.154	0.143	0.144	0.143
Linkage rate	0.499			0.549			0.530		
Observations	418,444	208,858	208,858	58,581	32,132	32,132	49,314	26,139	26,139
<i>Year: 1880</i>	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Age	26.056	23.975	25.958	53.037	54.535	53.104	43.200	43.236	43.205
Urban	0.313	0.144	0.304	0.291	0.155	0.287	0.261	0.120	0.254
Black	0.154	0.160	0.155	0.117	0.114	0.119	0.135	0.138	0.137
Foreign-born	0.116	0.081	0.108	0.260	0.217	0.251	0.198	0.157	0.185
Female	0.480	0.477	0.479	-	-	-	-	-	-
Married	0.286	0.302	0.293	-	-	-	-	-	-
Widowed	0.086	0.064	0.086	-	-	-	-	-	-
<i>Cause of death</i>									
Infectious disease	0.339	0.364	0.346	0.278	0.278	0.280	0.344	0.349	0.345
Nervous system	0.115	0.116	0.116	0.106	0.107	0.106	0.080	0.081	0.080
Circulatory system	0.037	0.035	0.037	0.072	0.073	0.071	0.062	0.063	0.062
Respiratory system	0.114	0.111	0.113	0.155	0.159	0.154	0.117	0.116	0.117
Digestive system	0.094	0.090	0.092	0.068	0.066	0.067	0.062	0.057	0.061
Other general	0.128	0.109	0.122	0.133	0.128	0.130	0.116	0.102	0.112
Maternal/childbirth	0.017	0.018	0.018	0.001	0.001	0.001	0.089	0.097	0.092
Violent/external	0.040	0.035	0.039	0.060	0.056	0.061	0.014	0.011	0.014
Unclassified/unknown	0.116	0.122	0.117	0.128	0.132	0.130	0.117	0.123	0.118
Linkage rate	0.344			0.370			0.359		
Observations	725,699	249,680	249,680	106,808	39,570	39,570	98,388	35,312	35,312

Notes: Table reports statistics calculated using the 1870 and 1880 mortality censuses. Column 1 reports the mean of each variable in the full census. Column 2 reports means in the unweighted linked sample. Column 3 reports means in the linked sample, reweighted to match the full census. Columns 4–6 restrict the sample to married men aged 16+. Columns 7–9 restrict the sample to married women aged 16+.

A.2 Identifying widows

The process for identifying widows begins with the sample of married men aged 16 or older linked to a household in the population census (column 5 in Appendix Table A.1). I start by identifying all women aged 16 or older. This identifies a unique woman in 30 percent of cases. When more than one woman fits this description, I use the woman closest in age to the deceased. In the case of a tie, the lowest person number is chosen. Finally, the age distribution of widows is presented in Figure A.2. I limit the final sample of widows to women within 15 years of age of the deceased (colored in blue). Widowers are identified using the same approach with deceased married women in the mortality censuses.

Figure A.2: Age differences of widows and deceased husbands



Notes: Figure shows the distribution of age differences for widows and their deceased husbands, calculated using the 1870 and 1880 mortality censuses. Colored in blue are the women included in the matched widows sample. Red line indicates the median age difference.

A.3 Sample construction

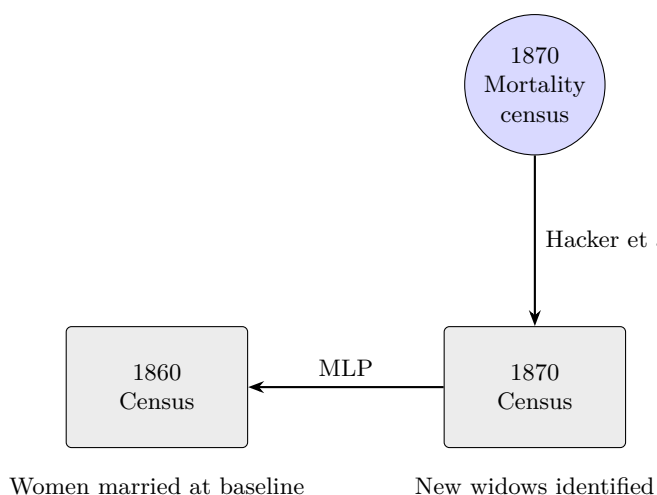
I use the combined mortality and population censuses to construct a matched sample of widowed and married women. To do this, it is necessary to observe characteristics of all women prior to the widowhood event. Several linking projects facilitate this process. For the main analysis sample, I use the IPUMS Multigenerational Longitudinal Panel (MLP) links for 1860–1870 and 1870–1880 (Ruggles, Ozder, et al. 2025). All women, including new widows in 1870, are linked backward to 1860 when they were still married. Similarly, women in 1880 are linked backward to 1870. See Figure A.3 for an illustration.

Before implementing the matching procedure, I restrict the linked MLP sample in several ways. I restrict the sample to women who were married in the baseline (pre-widowhood) census. Although the MLP links have information on maiden names, restricting to married women improves the likelihood that women do not change names between census years. This restriction removes selection into marriage as a confounding factor for the effects of widowhood. While useful, this

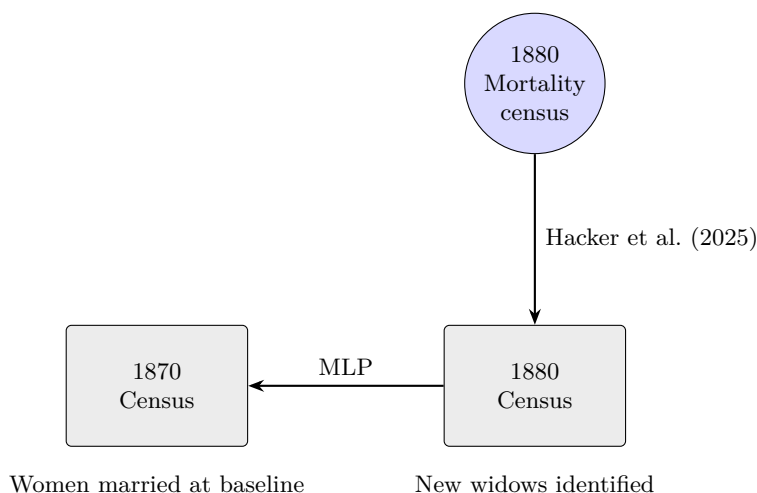
restriction drops recently married, relatively younger women. The effects of widowhood estimated here can be interpreted as effects for women who have been married for at least 10 years. I restrict the sample to white women ages 25 to 55 at the time widowhood is measured. The lower age restriction of 25 is not binding in most cases due to the restriction on marriage at baseline. In order for this to be binding, a woman widowed in 1870 would have to show up as married in 1860 aged 15 or younger, which was unlikely. The upper age restriction of 55 limits the analysis to women of prime working age. Black women made up 9 percent of widowed women and are studied as a separate group. Finally, I require that all women in the comparison group be married at the time widowhood is measured. Women widowed, separated, or divorced since the last census are excluded from the comparison group.

Figure A.3: Census linking procedure

Panel A: 1870



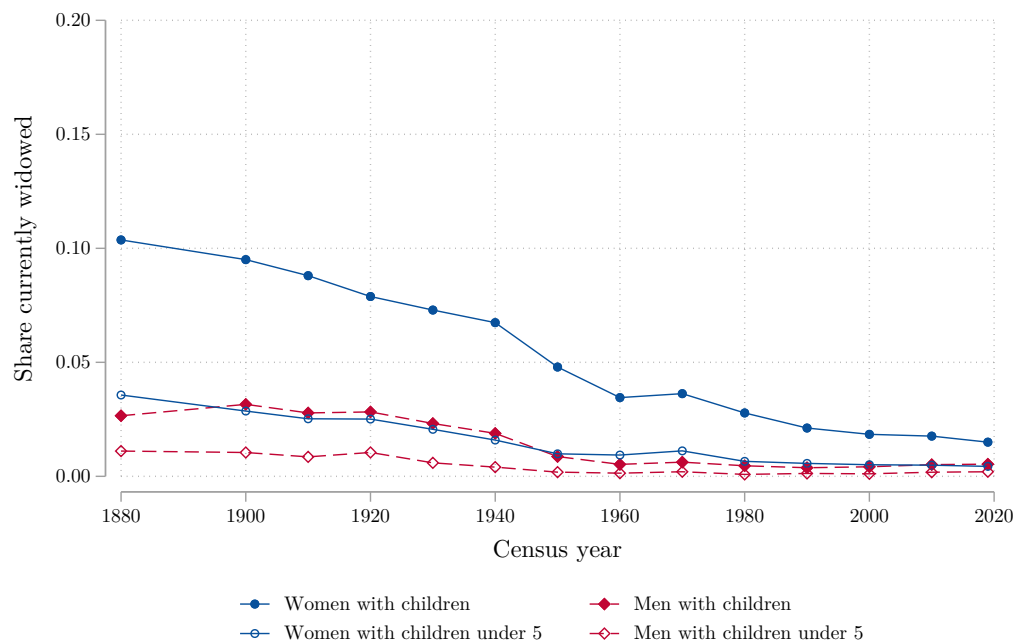
Panel B: 1880



Notes: See Hacker et al. (2025) for details on the linkage from the mortality census to the population census. See Ruggles, Ozder, et al. (2025) for details on the MLP linkage across census years.

B Appendix Figures and Tables

Figure B.1: Share of parents aged 25–55 and currently widowed



Notes: Figure shows the share of parents ages 25–55 currently widowed. Shares are displayed for women and men with any children and with any children under age 5. Values for 1880 and 1900–2000 are calculated using IPUMS 1% Census samples. Values for 2010 and 2019 are calculated using the American Community Survey (Ruggles, Flood, et al. [2025](#)).

Figure B.2: Effects of spousal death on widows – Heterogeneity

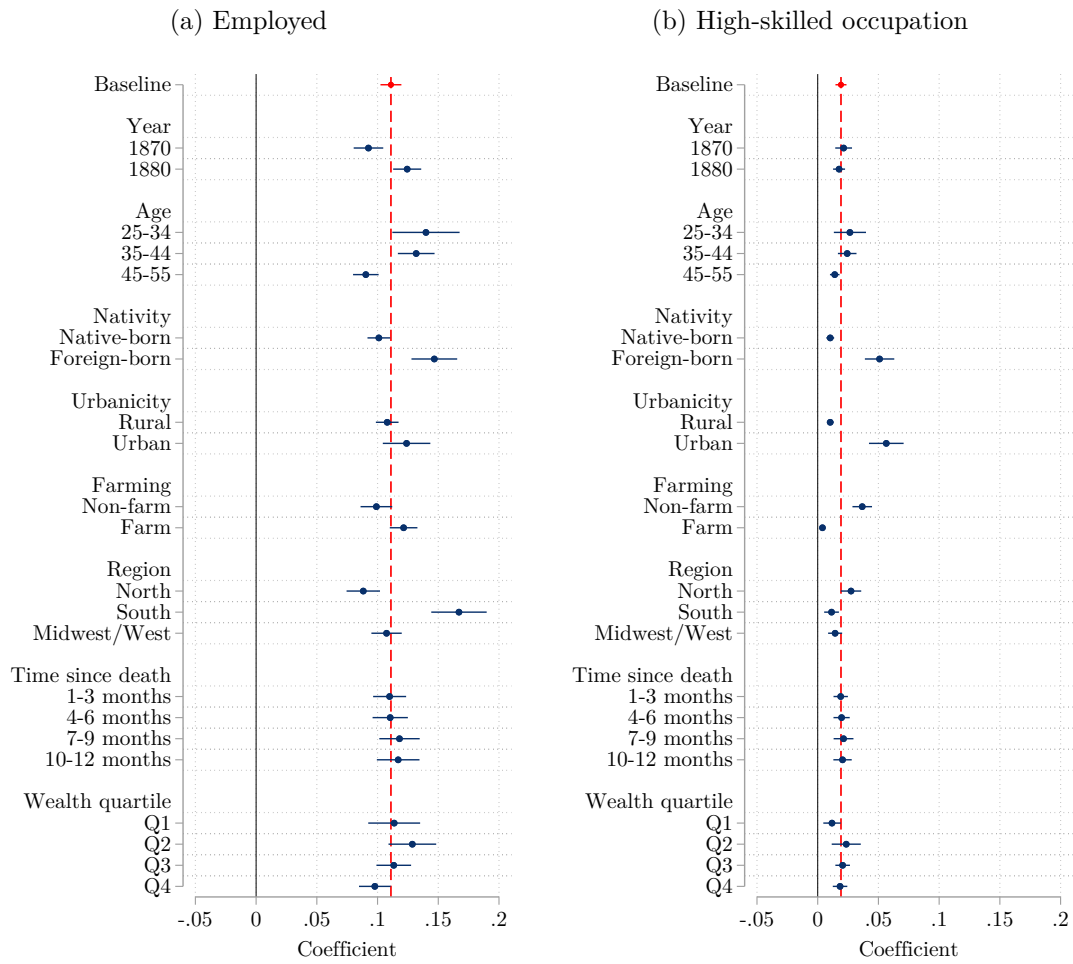
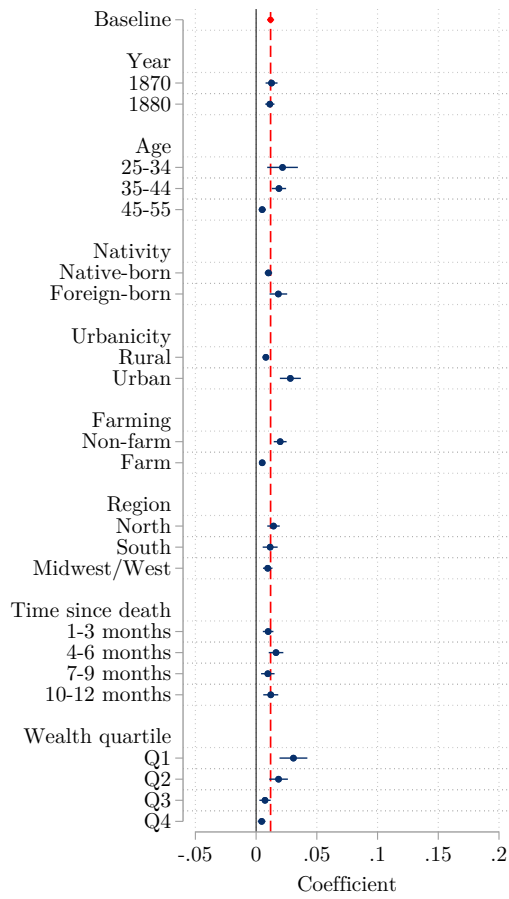


Figure B.2 (continued)

(c) Semi-skilled occupation



(d) Low-skilled occupation

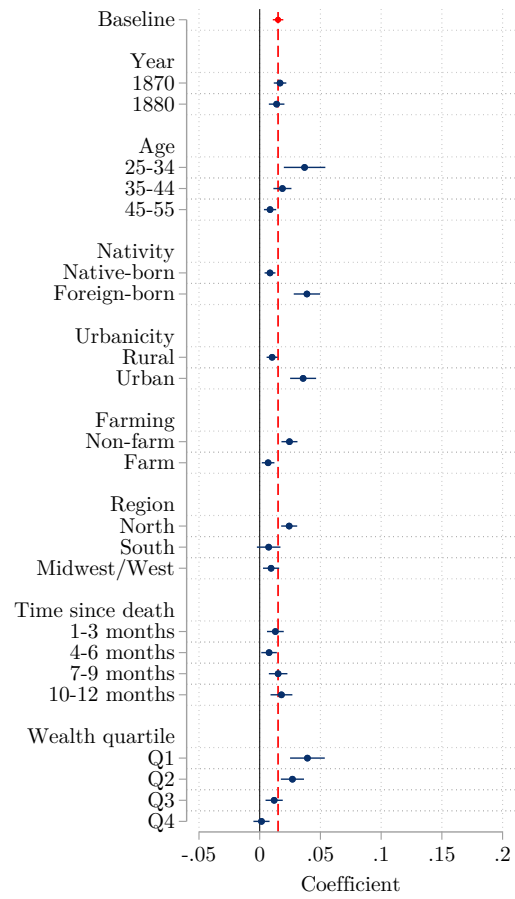
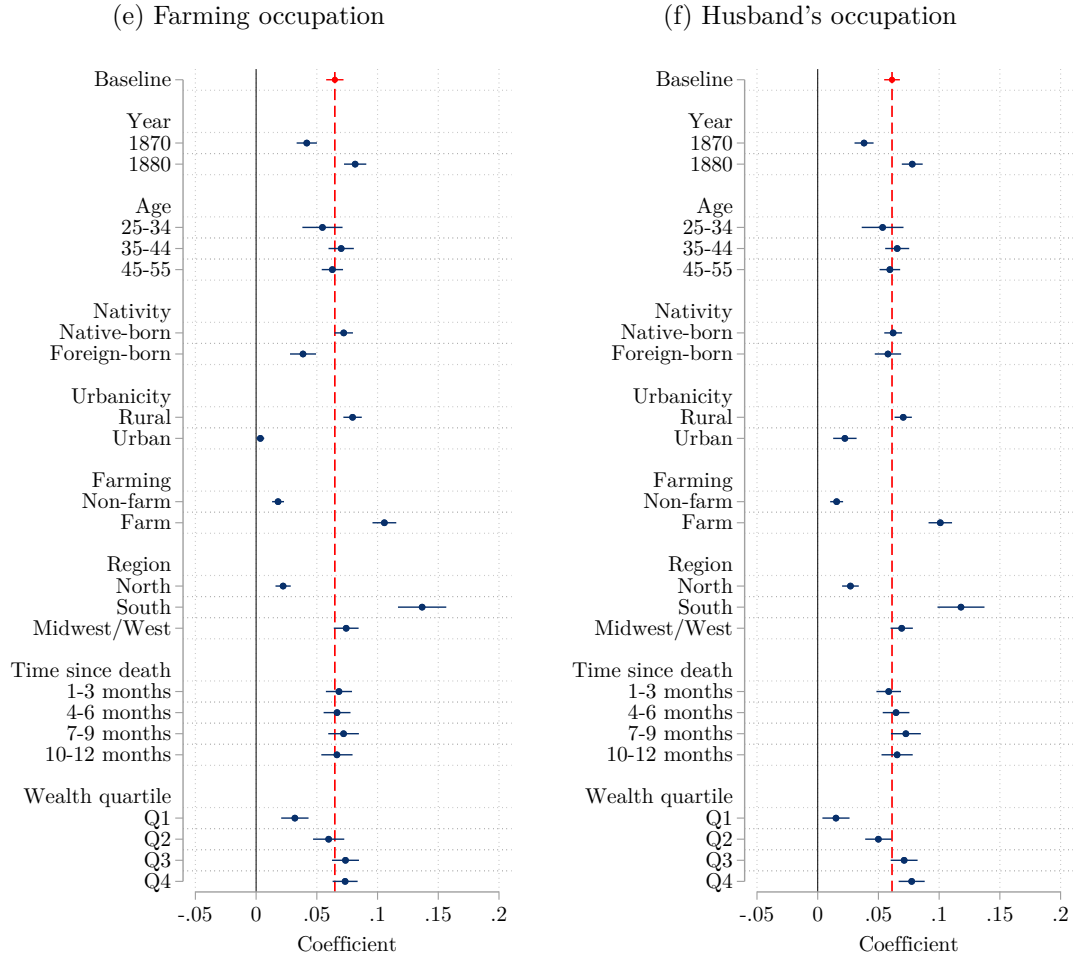


Figure B.2 (continued)



Notes: Figures show coefficients for the impact of widowhood on outcomes for widows, estimated using the matched sample described in Section 3.2. Coefficients are from separate regressions using an indicator for widowed interacted with each characteristic. All regressions use controls and matching weights, with standard errors clustered at the county level. 95 percent confidence intervals are shown. Red line indicates the baseline estimate in Table 2, column 2.

Table B.1: Predictors of widowhood in 1880

	Women		Men	
	(1)	(2)	(3)	(4)
<i>Characteristics, 1880</i>				
Black	0.010*** (0.001)	0.001 (0.001)	0.008*** (0.001)	0.007*** (0.001)
Age/10	0.037*** (0.001)	0.003*** (0.001)	0.012*** (0.000)	0.012*** (0.000)
Foreign-born	0.002** (0.001)	0.001 (0.001)	0.001** (0.000)	0.000 (0.000)
Literate	-0.019*** (0.001)	-0.016*** (0.001)	-0.001*** (0.000)	-0.000 (0.000)
Urban	0.027*** (0.002)	0.027*** (0.001)	-0.001 (0.001)	-0.001* (0.000)
Number of children	-0.004*** (0.000)	-0.004*** (0.000)	-0.003*** (0.000)	-0.003*** (0.000)
<i>Spouse characteristics, 1870</i>				
Age/10		0.037*** (0.000)		0.000 (0.000)
Foreign-born		0.001 (0.001)		0.001 (0.000)
Literate		-0.004*** (0.001)		-0.003*** (0.000)
<i>Spouse occ. skill level, 1870</i>				
High-skilled		-0.006*** (0.001)		0.001 (0.002)
Semi-skilled		-0.006*** (0.001)		-0.003** (0.002)
Low-skilled		-0.006*** (0.001)		-0.004*** (0.001)
Farming		-0.005*** (0.001)		-0.004 (0.003)
<i>Household wealth, 1870</i>				
Second quartile		-0.002*** (0.001)		0.000 (0.000)
Third quartile		-0.007*** (0.001)		-0.001*** (0.000)
Top quartile		-0.009*** (0.001)		-0.002*** (0.000)
Mean Y	0.06	0.06	0.03	0.03
Observations	2,623,483	2,623,483	2,252,742	2,252,742

Notes: Table reports predictors of widowhood among women (columns 1 and 2) and men (columns 3 and 4) in the 1880 population census. Sample is restricted to individuals linked from 1870 to 1880, aged 25–55 in 1880, and married in 1870. Widowhood is measured using self-reported marital status in 1880. Reference categories for occupation skill level and household wealth are no occupation and bottom quartile. Standard errors clustered at the county level in parentheses. * $p < 0.10$; ** $p < 0.05$; *** $p < 0.01$.

Table B.2: Entrance of widows into their husband's occupation

	Share of skill group (1)	Share of widows entering (2)
<i>Panel A: Occupations of deceased husbands</i>		
<i>High-skilled</i>		
Bakers	0.010	0.231
Managers	0.257	0.096
Tailors and related workers	0.079	0.043
Blacksmiths and machinists	0.098	0.004
Bricklayers, carpenters, and related construction workers	0.202	0.000
<i>Semi-skilled</i>		
Butchers	0.050	0.020
Operatives and kindred workers, n.e.c.	0.443	0.016
Miners and related workers	0.134	0.000
Sales workers and shop assistants	0.123	0.000
Truck drivers	0.074	0.000
<i>Low-skilled</i>		
Building managers and proprietors	0.005	0.167
Hairdressers	0.008	0.100
Service workers, n.e.c.	0.008	0.100
Operatives and kindred workers, n.e.c.	0.581	0.018
Farm laborers	0.302	0.003
<i>Farming</i>		
Farmers and farm managers	1.000	0.108
<i>Panel B: Accidental deaths only</i>		
<i>High-skilled</i>		
Bricklayers, carpenters, and related construction workers	0.393	0.000
Managers	0.179	0.000
Blacksmiths and machinists	0.120	0.000
Tailors and related workers	0.051	0.000
Craftsmen and kindred workers, n.e.c.	0.043	0.000
<i>Semi-skilled</i>		
Operatives and kindred workers, n.e.c.	0.391	0.000
Miners and related workers	0.375	0.000
Truck drivers	0.078	0.000
Sawyers and lumber inspectors	0.047	0.000
Sales workers and shop assistants	0.031	0.000
<i>Low-skilled</i>		
Operatives and kindred workers, n.e.c.	0.724	0.032
Farm laborers	0.172	0.000
Fishermen	0.046	0.000
Forestry workers	0.034	0.000
Housekeeping workers	0.011	0.000
<i>Farming</i>		
Farmers and farm managers	1.000	0.110

Notes: Table reports the occupations of deceased husbands in the matched sample of widows. Occupations are categorized into micro-occupational groups following Song et al. (2020). Column 1 reports the occupation's share of the corresponding skill group. Only the top five occupations are reported, sorted by the share of widows entering the deceased husband's occupation (column 2).

Table B.3: Descriptive statistics of deceased husbands

	Linked deaths (1)	Linked to widow (2)	Matched sample (3)
<i>Demographics</i>			
Black	0.104	0.090	0.002
Foreign-born	0.233	0.240	0.238
Age at death	53.475	51.608	49.207
<i>Cause of death</i>			
Infectious disease	0.305	0.316	0.340
Nervous system	0.101	0.099	0.092
Circulatory system	0.069	0.068	0.057
Respiratory system	0.146	0.142	0.149
Digestive system	0.066	0.068	0.078
Other general	0.112	0.104	0.088
Maternal/childbirth	0.001	0.001	0.000
Violent/external	0.058	0.061	0.066
Unclassified/unknown	0.142	0.140	0.130
Observations	71,702	52,423	8,698

Notes: Table reports descriptive statistics of deceased husbands. Column 1 reports means for deaths of married men aged 16 and up in the linked mortality census. Column 2 reports deaths linked to an identifiable widow between the ages of 16 and 55. Column 3 reports deaths in the matched widows sample in Section 3.2.

Table B.4: Effects of spousal death on widows – Heterogeneity by husband’s occupation

	Employed (1)	High-skill (2)	Semi-skill (3)	Low-skill (4)	Farming (5)	Husband occ. (6)
Widowed	0.104*** (0.009)	0.009*** (0.002)	0.010*** (0.001)	0.012*** (0.002)	0.017*** (0.002)	0.032*** (0.005)
× Husband high-skill		0.049*** (0.006)				
× Husband semi-skill	−0.015 (0.015)		0.018** (0.007)			−0.026*** (0.006)
× Husband low-skill	−0.008 (0.013)			0.022** (0.009)		−0.028*** (0.005)
× Husband farming	0.019* (0.011)				0.090*** (0.005)	0.072*** (0.007)
Controls	Y	Y	Y	Y	Y	Y
Matching weights	Y	Y	Y	Y	Y	Y
Accidental deaths only	N	N	N	N	N	N
Control mean	0.018	0.002	0.003	0.012	0.001	0.006
Observations	17,857	17,857	17,857	17,857	17,857	17,857

Notes: Table reports estimates of equation (1) using the matched widows sample described in Section 3.2. Widowed is interacted with the skill grouping of the deceased husband’s occupation, where high-skilled occupations are the reference category in columns 1 and 6. Column 1 reports results for any employment. Columns 2–5 report results for employment in high-skilled, semi-skilled, low-skilled, and farming occupations. Column 6 reports results for employment in the same occupation as the deceased husband. All regressions use matching weights and controls. Standard errors clustered at the county level in parentheses. * $p < 0.10$; ** $p < 0.05$; *** $p < 0.01$.

Table B.5: Effects of spousal death on black widows' employment

	Outcome: Employed	
	(1)	(2)
<i>Panel A: All occupations</i>		
Widowed in the last year	0.274*** (0.023)	0.343*** (0.034)
Control mean	0.214	0.198
<i>Panel B: High-skilled</i>		
Widowed in the last year	0.001 (0.002)	−0.005 (0.004)
Control mean	0.001	0.003
<i>Panel C: Semi-skilled</i>		
Widowed in the last year	0.004 (0.004)	−0.003 (0.003)
Control mean	0.005	0.003
<i>Panel D: Low-skilled</i>		
Widowed in the last year	0.117*** (0.021)	0.162*** (0.037)
Control mean	0.203	0.191
<i>Panel E: Farming</i>		
Widowed in the last year	0.152*** (0.018)	0.188*** (0.024)
Control mean	0.005	0.000
<i>Panel F: Husband's occupation</i>		
Widowed in the last year	0.060*** (0.016)	0.114*** (0.029)
Control mean	0.083	0.086
Observations	181,761	628
Controls	N	Y
Matching weights	N	Y
Accidental deaths only	N	N

Notes: Table reports estimates of equation (1) for black women. The outcome is any employment, defined as any gainful occupation. Column 1 reports results using the full linked censuses. Column 2 adds controls and matching weights, restricting to the matched black widows sample in Section 4.2.2. Panel A reports the effect of widowhood on employment in all occupations. Panels B–E report the effect of widowhood on employment in high-skilled, semi-skilled, low-skilled, and farming occupations. Panel F reports the effect of widowhood on employment in the same occupation as the deceased husband. Standard errors clustered at the county level in parentheses. * $p < 0.10$; ** $p < 0.05$; *** $p < 0.01$.

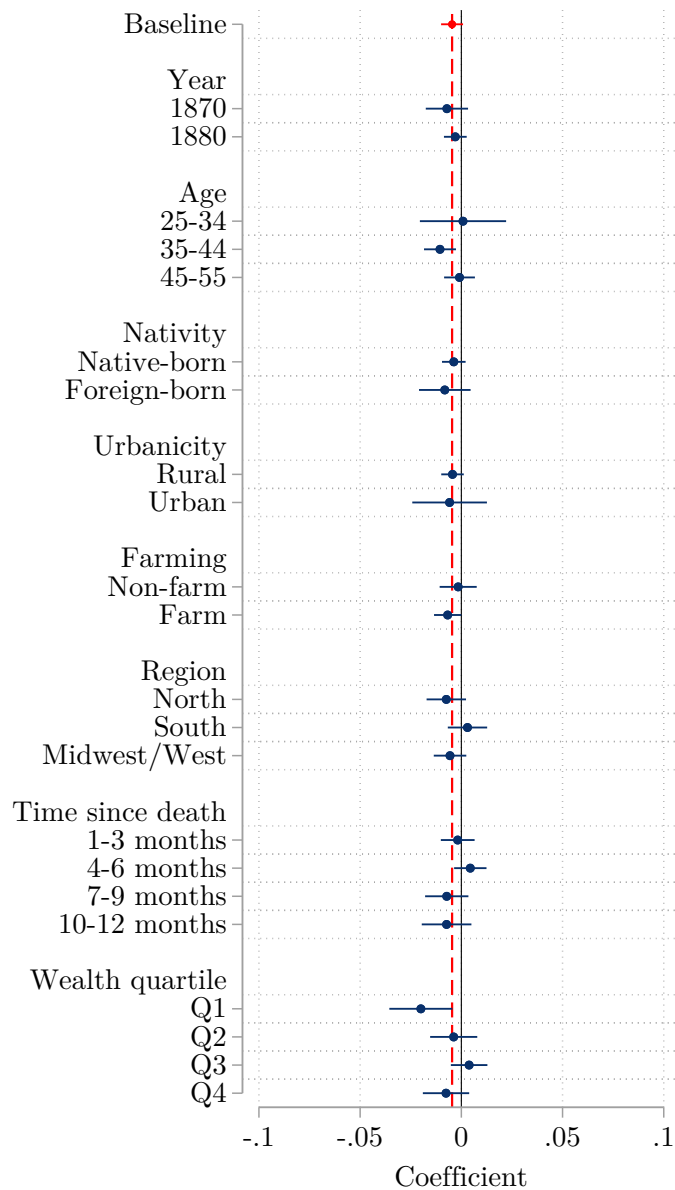
Table B.6: Balance – Children with deceased and living mothers

	Linked census		Matched sample	
	Mother deceased	Mother alive	Mother deceased	Mother alive
	(1)	(2)	(3)	(4)
<i>Panel A: All deaths</i>				
<i>Targeted in matching</i>				
Female	0.497	0.489	0.489	0.489
Age	11.540	11.218	11.553	11.553
Father age	44.651	43.903	44.741	44.767
Father foreign-born	0.225	0.269	0.195	0.195
Urban	0.150	0.202	0.101	0.101
Farm	0.540	0.468	0.709	0.710
Number of siblings	2.788	2.391	2.908	2.805
Father employed	0.934	0.927	0.953	0.953
Mother age	40.674	39.263	40.650	40.261
Household wealth quartile	2.766	2.654	2.861	2.870
<i>Not targeted in matching</i>				
Father literate	0.901	0.902	0.900	0.890
Mother employed	0.023	0.026	0.019	0.021
Mother foreign-born	0.204	0.241	0.182	0.181
Mother literate	0.857	0.870	0.854	0.843
Observations	19,959	8,221,848	13,509	13,640
<i>Panel B: Accidental deaths</i>				
<i>Targeted in matching</i>				
Female	0.497	0.489	0.488	0.488
Age	11.018	11.218	11.004	11.004
Father age	42.756	43.903	42.874	42.874
Father foreign-born	0.315	0.269	0.274	0.274
Urban	0.153	0.202	0.090	0.090
Farm	0.540	0.468	0.678	0.679
Number of siblings	2.413	2.391	2.489	2.390
Father employed	0.926	0.927	0.946	0.946
Mother age	38.080	39.263	38.155	38.147
Household wealth quartile	2.602	2.654	2.692	2.685
<i>Not targeted in matching</i>				
Father literate	0.856	0.902	0.852	0.878
Mother employed	0.023	0.026	0.018	0.015
Mother foreign-born	0.282	0.241	0.251	0.244
Mother literate	0.810	0.870	0.814	0.817
Observations	2,338	8,221,848	1,622	1,641

Notes: Means for children with deceased and living mothers are reported. Columns 1 and 2 report means in the full linked censuses. Columns 3 and 4 restrict to the matched sample described in Section 5.1. Panel A includes children experiencing maternal death from all causes and Panel B includes children experiencing maternal death from accidental causes only. Targeted variables are used in the construction of the matched sample. All variables are measured in the census prior to maternal death except gender and age, which are measured at the time of maternal death.

C Additional Results: Widowers

Figure C.1: Effects of spousal death on widowers – Heterogeneity



Notes: Figure shows coefficients for the impact of widowhood on employment of widowers, estimated using the matched sample described in Section 3.2. Coefficients are from separate regressions using an indicator for widowed interacted with each characteristic. All regressions use controls and matching weights, with standard errors clustered at the county level. 95 percent confidence intervals are shown. Red line indicates the baseline estimate in Table C.3, column 2.

Table C.1: Balance – Widowed and married men

	Linked census		Matched sample	
	Widowed (1)	Married (2)	Widowed (3)	Married (4)
<i>Panel A: All deaths</i>				
<i>Targeted in matching</i>				
Age	45.067	44.057	45.196	45.238
Foreign-born	0.201	0.244	0.189	0.189
Urban	0.161	0.228	0.143	0.143
Farm	0.514	0.434	0.578	0.579
Has children	0.936	0.881	0.951	0.951
Number of children	3.248	2.757	3.330	3.239
Employed	0.933	0.924	0.938	0.938
Wife age	41.638	39.739	41.659	41.111
Household wealth quartile	2.804	2.673	2.832	2.866
<i>Not targeted in matching</i>				
Literate	0.910	0.914	0.907	0.903
Wife employed	0.023	0.027	0.021	0.022
Wife foreign-born	0.181	0.219	0.174	0.175
Wife literate	0.874	0.889	0.872	0.875
Observations	7,998	3,439,421	6,879	7,280
<i>Panel B: Accidental deaths</i>				
<i>Targeted in matching</i>				
Age	42.139	44.057	42.342	42.336
Foreign-born	0.273	0.244	0.261	0.261
Urban	0.151	0.228	0.126	0.126
Farm	0.520	0.434	0.584	0.579
Has children	0.933	0.881	0.960	0.960
Number of children	2.920	2.757	3.043	2.970
Employed	0.920	0.924	0.930	0.930
Wife age	37.687	39.739	37.802	37.585
Household wealth quartile	2.605	2.673	2.618	2.611
<i>Not targeted in matching</i>				
Literate	0.871	0.914	0.864	0.879
Wife employed	0.025	0.027	0.024	0.010
Wife foreign-born	0.246	0.219	0.238	0.232
Wife literate	0.835	0.889	0.830	0.819
Observations	729	3,439,421	625	652

Notes: Means for widowed and married men are reported. Columns 1 and 2 report means in the full linked censuses. Columns 3 and 4 restrict to the matched sample described in Section 3.2. Panel A includes widowers experiencing spousal death from all causes and Panel B includes widowers experiencing spousal death from accidental causes only. Targeted variables are used in the construction of the matched sample. All variables are measured in the census prior to widowhood except age, which is measured at the time of widowhood.

Table C.2: Descriptive statistics of deceased wives

	Linked deaths (1)	Linked to widower (2)	Matched sample (3)
<i>Demographics</i>			
Black	0.126	0.105	0.003
Foreign-born	0.175	0.178	0.170
Age at death	43.096	42.661	41.425
<i>Cause of death</i>			
Infectious disease	0.364	0.364	0.388
Nervous system	0.077	0.078	0.066
Circulatory system	0.060	0.061	0.058
Respiratory system	0.109	0.109	0.109
Digestive system	0.059	0.060	0.067
Other general	0.093	0.092	0.098
Maternal/childbirth	0.094	0.097	0.083
Violent/external	0.011	0.011	0.011
Unclassified/unknown	0.132	0.129	0.120
Observations	61,451	45,017	6,879

Notes: Table reports descriptive statistics of deceased wives. Column 1 reports means for deaths of married women aged 16 and up in the linked mortality census. Column 2 reports deaths linked to an identifiable widower between the ages of 16 and 55. Column 3 reports deaths in the matched widowers sample in Section 3.2.

Table C.3: Effects of recent spousal death on widowers' employment

	Outcome: Employed		
	(1)	(2)	(3)
<i>Panel A: All occupations</i>			
Widowed in the last year	−0.003 (0.003)	−0.004 (0.003)	−0.006 (0.009)
Control mean	0.965	0.970	0.980
<i>Panel B: High-skilled</i>			
Widowed in the last year	−0.029*** (0.006)	0.008 (0.005)	−0.000 (0.018)
Control mean	0.263	0.192	0.167
<i>Panel C: Semi-skilled</i>			
Widowed in the last year	−0.025*** (0.005)	−0.006 (0.004)	−0.022 (0.016)
Control mean	0.118	0.088	0.112
<i>Panel D: Low-skilled</i>			
Widowed in the last year	−0.006 (0.004)	0.006 (0.005)	0.000 (0.018)
Control mean	0.113	0.102	0.110
<i>Panel E: Farmers</i>			
Widowed in the last year	0.056*** (0.010)	−0.012* (0.006)	0.016 (0.021)
Control mean	0.471	0.588	0.590
<i>Panel F: Wife's occupation</i>			
Widowed in the last year	−0.000 (0.002)	0.003* (0.001)	−0.002 (0.004)
Control mean	0.011	0.007	0.008
Observations	3,447,419	14,159	1,277
Controls	N	Y	Y
Matching weights	N	Y	Y
Accidental deaths only	N	N	Y

Notes: Table reports estimates of equation (1). The outcome is any employment, defined as any gainful occupation. Column 1 reports results using the full linked censuses. Column 2 adds controls and matching weights, restricting the sample to the matched widowers sample described in Section 3.2. Column 3 restricts the matched sample to accidental deaths only. Panel A reports the effect of widowhood on employment in all occupations. Panels B–E report the effect of widowhood on employment in high-skilled, semi-skilled, low-skilled, and farming occupations. Panel F reports the effect of widowhood on employment in the same occupation as the deceased wife. Standard errors clustered at the county level in parentheses. * $p < 0.10$; ** $p < 0.05$; *** $p < 0.01$.