

Union Army Widows and the Historical Take-up of Social Benefits

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Abstract

Take-up of modern social programs is incomplete. The literature identifies multiple reasons for incomplete take-up, which can be divided in three broad categories – information, administrative, and stigma costs – and finds a role for all three. This paper will analyze take-up of the first large-scale benefits program in the United States, the Union Army (UA) pension, focusing on the behavior of Union Army widows. The take-up rate falls between 35 and 75%, with a preferred estimate of 50%. This is lower than the take-up rate of most modern federal programs, but not by much. Moreover, take-up of the UA widows' pension seems to be higher than that of TANF in recent years. Non-participation in the UA pension is plausibly driven by a combination of information and administrative costs, much like modern programs.

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1 Introduction

Incomplete take-up of social programs is a puzzle for policymakers. In the U.S., major federal income support programs have take-up rates averaging around three quarters (Currie 2004; Ko and Moffitt 2022). This means that roughly one quarter of eligible Americans fail to collect benefits to which they are entitled, although this figure varies substantially by program. In theory, non-participation can be explained through a mixture of information, administrative, and stigma costs (Moffitt 1983), and there is a large empirical literature seeks to tease out the relative importance of each. Understanding the extent and determinants of non-participation can help policy makers design more effective programs.

Scholarship on the incomplete take-up of social programs overwhelmingly focuses on the last forty years or so. But social assistance in the United States has a longer history. Federal Unemployment Insurance (UI) dates from the 1930s, as does the Aid to Families with Dependent Children (AFDC) program, a welfare program superseded by Temporary Aid to Needy Families (TANF) in the 1990s. State-level social insurance programs date to the Progressive Era, and include Mothers' Pensions (Aizer et al 2016) and Workers' Compensation (Fishback and Kantor 2000), among others. To what extent did Americans engage with social programs during these early years, and how does this compare with recent participation rates? Are the determinants of non-participation similar across periods? Understanding take-up decisions from the past can provide valuable context for recent estimates of program participation.

This paper adds an early data point to the literature on the take-up of social programs in the United States. It analyzes take-up of the Union Army (UA) pension, the first large-scale social assistance program in the United States. Introduced in 1862, this pension offered financial support to UA veterans who were wounded in the service and were unable to perform manual labor. The program also offered support to widows of UA veterans, provided their husbands served honorably and died as a direct result of their military service. Widows needed to stay unmarried to maintain eligibility for the program. In its early years, the UA pension was narrowly targeted to people injured or widowed in the service, and was not means tested. It later grew into a general old age and disability program for northern men (Skocpol 1995). This paper focuses on take-up of the UA pension among eligible widows.

There are similarities and differences between UA widows' pensions and modern social welfare programs. Information technology being more advanced today, it is easier for applicants to gain information about modern programs. On the other hand, the UA pension was extremely well publicized in newspapers. Moreover, it was the only program of its kind, and eligibility rules were relatively straightforward, which would tend to make it easier for applicants to determine their own eligibility. The administrative costs of applications for the UA pension were very high, including not just the assembly of documen-

tation but physical court appearances. Collecting the UA pension was also costly, involving travel for applicants who did not live near a pension agency (see Section 3 for details). Modern programs do not require applicants to make court appearance, and technological progress makes the process of assembling documentation and collecting payments significantly easier. On the other hand, modern means-tested programs require supporting documentation to be filed on a repeated basis, while documentation for a UA pension needed to be filed only once. Many modern programs, like TANF and the Supplemental Nutrition Assistance Program (SNAP), assign case workers to recipients, who ease some of the administrative burden of filing. Such workers were not available to UA pension applicants. On the other hand, there was an active private market for pension attorneys, who assumed part of this role (for a large fee, payable by the applicant). Finally, there is a great deal of stigma associated with collecting benefits like SNAP or TANF. While the UA pension program was politically controversial, UA widows were widely considered “deserving” of aid, at least in the north. On the other hand, pension commissioners’ reports and the contemporary popular press demonstrate a deep skepticism of applicants for widows’ pensions, citing concerns about fraud and ‘immoral behavior’ which bear some resemblance to the way in which welfare recipients are characterized today.¹

I estimate the share of eligible Union Army widows who applied for a pension. I focus on characterizing take-up decisions by Union Army widows in the early years of the program, up to 1870. I do this with microdata on Union Army recruits (Fogel 2000) combined with data on widows’ pensions and remarriages (Salisbury 2017). Because a widow’s immediate eligibility depended only the circumstances of her husband’s death, and not on health or financial means, it is possible to infer eligibility for both applicants and non-applicants using this database. In addition, there was a change to the pension law as applied to widows during this period that allows for relatively clean measurement of secondary, or repeated, take-up. As of July 25, 1866, women could apply for a pension increase of \$2 per minor child. Because women had to indicate their children’s names and birth dates in their original pension applications, I know who is eligible for this increase and who is not, so I can accurately measure the secondary take-up rate. Using a sample consisting of both applicants and eligible non-applicants, I estimate the correlates of take-up as well as the rate.

I find that the take-up rate of the UA widows’ pension was lower than the take-up rate of modern federal programs, although the rates were surprisingly comparable. I estimate the participation rate roughly between 35 and 75%, with a preferred estimate around 50%. The secondary take-up rate was much higher, likely exceeding 80%. As in the modern literature, the correlates of take-up are consistent with information and administrative costs affecting participation. Women who were likely to have access

¹See Section 7 for details and several concrete examples.

to greater networks of other war widows participated more often and more quickly. Older women with more children were more likely to participate than younger women without children. As age and number of children are inversely related to remarriage prospects, these women would have expected to receive the pension for more time, making it more attractive to incur the substantial administrative costs associated with applying.

2 Related Literature

There is a large literature on the rate and determinants of take-up of modern social programs. In general, estimating program take-up is not a trivial exercise. While administrative records may contain a comprehensive list of program participants (the numerator) it is not always easy to observe the denominator. This is especially true when eligibility rules are complicated, so eligibility is not easily inferred from survey data (Ko and Moffitt 2022).

Currie (2006) and Ko and Moffitt (2022) provide extensive surveys of this literature. The large federal social assistance programs in the United States typically have take-up rates around two thirds to three quarters, although there is variation over time and across programs. The Earned Income Tax Credit (EITC) has a take-up rate consistently above 80 percent. It is the most straightforward to claim, requiring only that the eligible recipient file a tax return. TANF is a low income support program with a lower take-up rate, which has changed substantially over time. The largest change occurred as a result of the 1996 welfare reforms (formally, the Personal Responsibility and Work Opportunity Reconciliation Act, or PRWORA), which established work requirements for most welfare recipients. By one estimate, these led to an almost two-thirds reduction in the take-up rate (Falk 2017).

The literature posits several theoretical determinants of incomplete take-up, which build on Moffitt's (1983) model of program participation. These determinants include: information, transaction costs (relative to benefits), and stigma. Separately identifying these determinants is difficult empirically, as observable characteristics of programs or individuals are often related to more than one of them. For example, Currie and Grogger (2001) show that the introduction of the Electronic Benefit Transfer (EBT) system for SNAP – like debit cards – are associated with increased take-up. However, it is not clear what drives this effect. The EBT may have lowered transaction costs, but may also have lowered stigma costs, if EBT cards look like debit cards to outside observers at grocery store check-outs. Moreover, there are likely strong, unobservable individual fixed effects which influence program take-up, and are simultaneously related to perceived stigma, ability to navigate informationally complex programs, and expected benefits of participation relative to cost. These unobserved individual characteristics may be correlated with observables, making it even more difficult to pin down the mechanisms behind the

observable correlates of take-up.

A number of studies explore the role of information in determining take-up. One source of information about programs is networks. This is difficult to pin down because of a reflection problem. People who are part of networks with many participants may be more likely to participate themselves for several reasons: a direct effect of network characteristics on the propensity to participate; correlated individual characteristics within networks; or an information-sharing effect. Aizer and Currie (2004) study network effects on take-up of public prenatal care in California. They argue that the information-sharing effect is of limited importance, as neighborhood participation impacts repeated users as much as – if not more than – first time users. Conversely, Bertrand, Luttmer, and Mullainathan (2000) find strong evidence for informational network effects. They use the intersection of geographic and linguistic networks to identify network effects on the probability of claiming welfare. The use of both language and geography generates variation in “network” access to social programs within neighborhoods and linguistic groups, allowing the authors to control for neighborhood and language-specific effects; this circumvents the “reflection problem” inherent in most studies of network effects. Duflo and Saez (2002) analyze network effects on employees’ decisions to enroll in Tax Deferred Account retirement plans using experimental evidence. They show that encouraging a member of a person’s network to participate has a similar effect on the probability that this person participates as does encouraging the person directly. Borjas and Hilton (1996) document a larger rate of program participation among immigrants than natives, and posit that this is driven by network effects.

Informational complexity is a related deterrent of program participation. Bhargava and Manoli (2015) use experimental evidence to assess the relative importance of information, cost, and stigma in determining take-up of EITC benefits. They distributed mailings to tax filers who did not claim EITC benefits, which targeted each of the above potential drivers of non-participation. They conclude that informational complexity and a lack of awareness of the program on the part of potential applicants is the key driver of low take-up. Similarly, Bhargava, Loewenstein and Sydnor (2017) show that low income employees are more likely to choose less complex but suboptimal health plans than higher income employees, which suggests that program complexity may be a driver of low take-up. Saez (2009) shows that the way in which subsidies for retirement savings are presented – as a matching contribution versus a tax credit, for example – have a significant effect on take-up, suggesting a role for both informational complexity and stigma. Madrian and Shea (2001) show that changing default rules has a significant effect on participation, which also suggests a role for informational complexity.

Administrative costs are another likely driver of low take-up. The evidence generally points to a role for administrative costs, although there are some exceptions. Bitler, Currie and Scholz (2003) measure

correlates of take-up of the Special Supplemental Nutrition Program for Women, Infants and Children (WIC) at the state level. They argue that poverty and unemployment do not predict greater take-up, but state-level rules that reduce transaction costs do. Blank and Ruggles (1996) study non-participation in the AFDC and SNAP programs using the Survey of Income and Program Participation (SIPP). They argue that expectations about future earnings, not just current earnings, reduce the probability of participating: women with short eligibility spells less likely to participate at all. This suggests a high fixed cost of participating, which substantially discourages take-up. Currie and Grogger (2001) study the decline in participation in Food Stamps after the 1990s welfare reform using administrative and survey data on program participation. They attribute the decline in part to the growth of substitute programs, and to increasing transaction costs associated with participating, such as recertification intervals, and stigma costs. Benzarti (2017) uses taxpayers' choice to itemize deductions or claim the standard deduction to identify the time cost of filing income tax; he estimates this cost at around 1% of GDP in recent years.

Other studies point to a limited role for transaction costs. Ebenstein and Stange (2010) explore the effect of transaction costs on UI take-up, exploiting the introduction of remote claiming (i.e. by phone or Internet). They find that remote claiming did not change the take-up rate, suggesting a limited role for transaction costs in explaining low take-up. Jones (2010) conducts an experiment in which he distributes information on the EITC program to randomly selected workplaces; this intervention is thought to lower information, administrative, and stigma costs simultaneously, so he cannot identify these effects separately from one another. He finds that the intervention increased take-up, but only by a small amount.

3 Historical Background

The Union Army pension was the U.S. government's first attempt at large-scale social assistance. The U.S. had long offered pensions to wounded veterans and their widows; however, the unprecedented enlistment and casualty rate during the Civil War meant that the Union Army pension operated on a significantly larger scale. By the end of the war, the number of individuals receiving military pensions ballooned from around 11,000 in 1861 to almost 86,000 (United States Pension Bureau 1865). The Union Army pension would go on to become a sort of general disability and old age pension for northern men, covering 28 percent of men over 65 and occupying 25 percent of the federal budget by 1910 (Skocpol 1995).

This paper focuses on the take-up behavior of Union Army widows in the immediate aftermath of the Civil War. At this time, the eligibility rules for widows were straightforward: in order to be eligible to receive a pension, a widow needed to have been lawfully married to a man who served honorably in

the Union Army, and whose death was directly related to his military service. She forfeited her right to a pension if she remarried. Under the General Law of 1862, eligible widows were entitled to receive \$8 per month. An amendment passed on July 25, 1866 entitled widows to receive an additional \$2 per month for every child under the age of 16.

In order to apply for a pension, a widow needed to appear before a court of record and attest to certain facts: in particular, the legality of her marriage, her husband's military service, her husband's death, and her children's names and ages. These needed to be verified with supporting documentation, such as marriage certificates, birth certificates, death records, etc. In the absence of original records, witness testimony (taken before a justice of the peace) could be submitted. This evidence was mailed to the pension bureau in Washington, DC, where the claim would be assessed (Salisbury 2017). Applicants whose claims were approved were issued pension certificates, which they would use to receive payment.

Each pensioner was assigned to a pension agency, which was a local office to which funds were disbursed for the payment of pensions. Payments were made quarterly. Pensioners had to present their pension certificates in person at their local pension agency, and they were paid by check on the U.S. Treasury. There were 42 pension agencies in 1865, with no more than three agencies in a single state (United States Pension Bureau 1866). By 1870, there 59 pension agencies across the country, with denser coverage in some states (United States Pension Bureau 1871). Agencies were located in major cities, often railroad hubs, which facilitated travel to collect pensions. Scheduled quarterly payments ("pension days") were frequently reported in newspapers, with references to "long lines" and "crowds" (e.g. *NYT* 1869). Some pensioners opted to pay attorneys or pension brokers to collect their pensions on their behalf.²

It was very common for claimants to employ pension attorneys, who would handle their claims. These attorneys could charge a fixed fee of ten dollars per application, which was slightly more than a month's pension. This was a big business – there were a handful of large, Washington DC - based law firms that specialized in pensions, and they spent a great deal of money advertising changes to the pension law in newspapers, distributing pamphlets, and in some cases publishing entire newspapers which they populated with their own advertisements (Blanck and Song 2002). While neglectful attorneys were a common problem, of which the pension board was keenly aware (United States Pension Bureau 1883), it is undeniable that attorneys were an important source of information about pension eligibility for widows, and that widows valued the administrative support they provided.

²Many newspaper articles allude to pension attorneys and brokers collecting funds on behalf of their clients, and none takes a favorable view of these brokers. A New York Times article from 1880 (*NYT* 1880) describes a widow who empowered her attorney to collect \$1,400 of pension funds owed to her in arrears, with the help of a pension broker. The attorney and broker were both arrested on fraud charges, as they withheld all but \$600 of the payment from the widow for "various charges and expenses."

4 Data

This paper uses a sample of widows drawn from the Union Army (UA) Database (Fogel et al 2000), with supplementary data on widows' pension outcomes and remarriages collected from original case files at the National Archives in Washington, DC (Salisbury 2017). The Union Army database contains military, demographic, and socioeconomic information on almost 40,000 recruits from a sample of 331 companies. Information comes from multiple primary sources, including compiled military service records, pension files, and links to federal censuses. In many cases, the database also contains information on recruits' families, including the wife's name, data of marriage, and the names and birth dates of their children. It is important to note that this information is not collected by survey, but by examination of historical records; thus, certain key pieces of information are frequently missing, and the source of such information is important for understanding what this means for the representativeness of the usable sample. Most important for this study is data on recruits' families. For recruits who lived past 1898 and were receiving a pension, this information is available from the "family circular," a mandatory form sent to all pensioners requesting a list of family members.³ If the recruit died prior to 1898, or never filed for a pension, information about his family comes from dependents' pension applications. If the recruits' dependents never filed for a pension, this information may only be available through links to the Census, in which case certain key pieces of information (e.g. marriage date) will be missing.⁴

The unit of observation in the UA database is the soldier; the key unit of observation in this study is the widow. So, this paper uses a dataset constructed by Salisbury (2017), which identifies widows of UA veterans who died before 1880 in the UA database, and supplements the available data on these women with additional information about widows' pension applications and subsequent remarriages from their original pension files housed at the National Archives in Washington, DC. The widows' pension file data contain all correspondence between the widow and the pension bureau. This includes pension applications, supporting documentation (including marriage records and children's birth records), and pension decisions.

The core sample used in this paper consists of women whose husbands died during the Civil War. I focus on two take-up decisions: (i) the decision to apply for a pension at all; (ii) the decision to apply for the increase for minor children implemented in 1866, conditional on having made an initial pension application. The latter captures repeated engagement with the program. I use two slightly different

³The purpose of this exercise was to get ahead of pension fraud: dependents could claim pensions after an eligible veteran's death, and fraud was rampant. The pension bureau hoped to limit fraud by verifying dependents' claims against the information in the family circular.

⁴Links to the census are also less likely if family information is not already contained in the database, as family information is used to construct these links. Moreover, only men who are married and living in the same household as their family *during a decadal census year* will have observable families through census links alone.

subsamples for each. To analyze the decision to apply for an original pension, I use women identified in the 1860 census as being married to men who would go on to die during the war. To analyze the decision to apply for a pension increase, I use women who had applied for a pension but not remarried by July 25, 1866, and who had minor children (which is observable from the original pension application).

5 Estimating the take-up rate among Union Army widows

An estimate of the take-up rate of the UA widows' pension requires knowledge of the number of pension applicants and the number of eligible potential applicants. This is difficult to compute. In principle, the numerator could be computed from annual reports of the commissioner of pensions (United States Pension Bureau 1865-1870), which lists the number of pensioners on the rolls, and the number of new applicants, by state, year, and applicant status (i.e. veteran or dependent). However, it does not differentiate between widows and other dependents' pensions. Some 40 percent of pension applications by dependents of soldiers who died during the war were *parents* of deceased soldiers, not wives or children. Moreover, aggregate pension data does not indicate which new applications are from children whose mothers had been pensioned before remarrying, so there is a degree of double counting. The denominator is also difficult. The literature contains estimates of the Union Army casualty rate (Livermore 1901; Hacker 2011), but the marital status of these dead soldiers is not known.

The UA database is a more promising source of data for estimating take-up, but it also has its limitations. It is easy to count the number of widows in the database who applied for pensions. The number of eligible widows is less clear. To pin this down, I need to know how many men were killed as a result of their military service. And, I need to know how many of these men were married. Neither is obvious, because of the prevalence of missing data. Soldiers' death dates are available in the UA data from a variety of sources. First, if a soldier died while serving, there may be a military record of his death. Second, if the soldier survived the war and received a pension until his death, there will be a record of his death in his pension file. Third, if the soldier left dependents, they may have filed for a pension, in which case his death would be noted in their pension file. A soldier who died after the war ended, never applied for a pension, and whose spouse never applied for a pension, will certainly have a missing death date in the UA database. Moreover, as noted earlier, a married soldier who died before 1898 and whose wife never applied for a pension will have missing information about marital status. Thus, it is only possible to estimate the take-up rate among widows under assumptions about missing data.

I construct a reasonable range of estimates of the rate of take-up of the Union Army pension among widows of men who died during the war. These are reported in Table 1. I refer to events using the following shorthand:

APP_t	Soldier's widow applies for pension by time t
D_s	Soldier dies (due to military service) by time s
M	Soldier is married

The take-up rate, or the share of women widowed by year s who apply for a pension by year t , is equal to:

$$Pr(APP_t|D_s, M) = \frac{Pr(APP_t, D_s, M)}{Pr(D_s)Pr(M)}$$

assuming marital status and death are at least roughly statistically independent.⁵ Because all pension applications made on behalf of soldiers in the UA database are observed, it is relatively straightforward to estimate $Pr(APP_t, D_s, M)$ using this database.⁶ But due to the prevalence of missing information on death date and marital status, $Pr(D_s)$ and $Pr(M)$ are unknown.

I construct low- and high-end estimates of $Pr(D_{1865})$ and $Pr(M)$, which imply low- and high-end estimates of $Pr(APP_{1870}|D_{1865}, M)$. I focus on war dead because wartime deaths in the UA database can be observed from sources other than pension applications, and I can rely on external estimates of wartime casualties. Assuming that war deaths are underreported, the lower bound number of war dead in the UA database would be the number of men in the UA database with a recorded death date during the war. Thus, a low-end estimate of $Pr(D_{1865})$ is 13.4%.

For the high-end estimate, I inflate the conventional estimate of Union army casualties of 17% by 20%, which yields $Pr(D_{1865}) = 20.4\%$. The conventional estimate is from Livermore (1901). Hacker (2011) uses a census-based method to argue that Civil War deaths were undercounted. According to his preferred estimate, deaths attributable to the Civil War that occurred before 1870 are 20% higher than the conventional estimate of the death toll. This will overstate the *wartime* deaths of *Union* soldiers for two reasons. First, many of the war-related deaths occurring before 1870 occurred after the war ended.⁷ Second, undercounting of deaths was a larger problem on the Confederate side than the Union side. If the *total* death toll was 20% higher than the conventional estimate, this implies that *Union* death toll ought to be inflated by less than 20%. As such, I consider $Pr(D_{1865}) = 20.4\%$ a reasonable high-end estimate. I take the conventional estimate of Union deaths as my “preferred” estimate, although the truth is probably a bit higher.

To estimate the marriage rate, I regress marital status on age and state of residence indicators in the 1860 census, then use predicted values from this regression to assign recruits in the UA database

⁵There is some support for this assumption, at least for for $s = 1865$. Among veterans linked to the 1860 census, those who are married and unmarried are equally likely to have an observed death date between 1861 and 1865.

⁶There are a few cases in which widows' application status is ambiguous, but this is sufficiently uncommon that the upper and lower bounds on this probability are essential equal.

⁷Among all widows' pension applications filed before 1870, 20% were on behalf of veterans who died between 1866 and 1870.

a probability of being married in a given year. The low-end estimate uses the estimated share of UA recruits who were married in 1861. This would be the probable marriage rate among UA recruits if no marriages occurred after the war began. The high-end estimate treats all wartime deaths as occurring in 1865, with normal state-year marriage rates prevailing among soldiers throughout the war. My preferred estimate assumes that normal state-year marriage rates prevailed until the median death year of wartime casualties (1864). Thus, I allow $Pr(M)$ to range between 32% and 52%, with a preferred estimate of 46%.

With this range of values for $Pr(D_{1865})$ and $Pr(M)$, I calculate high- and low-end estimates of the take-up rate. These range from 35% to 95%, with a preferred estimate of 50%.

I can also use records linked to the 1860 census to calculate the take-up rate. I take all men who are married in 1860 (according to census links) and have a known wartime death date, and I compute the share whose widows filed for a pension before 1870. This is 71%. Among men who are household heads in 1860, this share is 76%.⁸ If men linked to the 1860 census were representative of all married men, and if having a recorded death date was independent of having a widow file for a pension, this would be a reasonable point estimate of the take-up rate. However, neither of these things is true. Men whose wives file for a pension are overrepresented among those with a known wartime death rate. And, men whose wives file for a pension are overrepresented among married men linked to the 1860 census, as spousal information is used to make these links. As such, I consider this an upper bound on the true take-up rate. Applying this upper bound to my previous estimates, it is reasonable to put the take-up rate between 35% and 76%.

How does this compare with participation rates of modern federal programs? First, note that I am capturing something slightly different from a typical take-up estimate. Most of the literature estimates the take-up rate as the share of *currently* eligible who are collecting benefits at a point in time. I am estimating the share of women who are eligible at *at least one point* who apply for benefits within a period of roughly five years. The fact that I am not using *current* eligibility tends to lower my estimate, relative to the modern literature. The fact that I am estimating take-up over a longer time horizon tends to raise my estimate, relative to the literature. I also note that I am measuring take-up by *application* rather than *receipt*, which tends to push my estimate up. This makes a small difference, in practice, as the approval rate of pensions was extremely high – more than 90% of the applicants in my sample were issued pension certificates within 10 years, the overwhelming majority of whom were issued certificates within three years. And, given the high rate of secondary take-up (see below), it is unlikely that many

⁸The 1860 census does not include a question on household relationships, so I have to make an educated guess as to the marital status of recruits linked to this census, which is based on household composition. If some soldiers are classified as “married” but really are not, this will understate the share of married soldiers that apply for a pension. Soldiers who are household heads in 1860 are much less likely to be wrongly classified as “married.”

widows were issued certificates but did not collect.

With these caveats in mind, we can make a direct comparison between the take-up rate of the UA pension and that of modern programs. Figure 1, Panel A, plots selected estimates of the take-up rates of U.S. federal programs between 1970 and 2020. Programs included in the figure are: EITC, Medicaid, UI, SNAP, and AFDC/TANF. Rates are taken from Currie (2006) and Ko and Moffitt (2022), who survey a large literature on the take-up of social programs. The figure shades the area between 35-76%, which constitutes a reasonable range of values for the take-up rate of the Union Army pension among the widows of war dead.

The EITC consistently has the highest take-up rate, and AFDC/TANF the lowest. The average take-up rate for modern programs is in the ballpark of 75%. While the take-up rate of the UA widows' pension is certainly lower than the take-up rate of a typical modern program, it is not far off. There is substantial overlap between the upper part of the reasonable take-up range of the UA widows' pension and the take-up rates of modern programs. And the take-up rate among UA widows is almost certainly higher than the TANF take-up rate following welfare reform.

In addition to the overall participation rate, I can characterize secondary participation decisions by widows who had already applied for a pension. In particular, I can calculate the share of pensioner widows who applied for additional benefits for which they were eligible. On July 25, 1866, an amendment to the pension law allowed widows to apply for an additional \$2 per month for each of her children (fathered by her soldier husband) under the age of 16. This increase was *not* automatic: widows had to submit an application form as well as records of her children's births. Because pre-1866 pension applications required widows to list their children's birth dates, I know whether or not applicants who filed for pensions before 1866 had qualifying children. This allows me to calculate a secondary take-up rate for eligible widows.

These application rates are also reported in Table 1. Between 60-65% of widows who (i) were married to a soldier who died during the war, (ii) had a qualifying child as of July 25, 1866, and (iii) applied for an original pension before July 25, 1866 applied for a pension increase within five years of eligibility. However, this understates the secondary take-up rate, as some women who had been collecting pensions before 1866 had already lost their eligibility due to remarriage or death.

Whether or not a pensioned widow remarried or died before July 25, 1866 is known in some cases (from a subsequent children's pension application, or a widow's application for restoration to the pension roles after 1901), but is ambiguous in others. Making different assumptions about the eligibility of these ambiguous cases allows me to establish bounds on the share of eligible widows who applied for pension increases. These are reported in the bottom row of Table 1 and range between 77% and 89%. A

comparison between this and the take-up rate of modern programs is given in Panel B of Figure 1.

The secondary take-up rate of Union Army widows' pensions is clearly much higher than the primary take-up rate. In Figure 2, I plot empirical survival and hazard functions for pension applications of both types. This allows me to characterize the speed of application, as well as the binary outcome of participation or non-participation. For initial applications, I use widows linked to the 1860 census, so the non-participation rate is likely understated. For secondary applications, I use widows who had applied for an original pension before July 25, 1866, and who are not known to have remarried or died before then. A widow becomes at risk of applying for an original pension when her husband dies, or the General Law is passed, whichever is later. A widow becomes at risk of applying for a pension increase on July 25, 1866. A "failure" is defined as a pension application, and anyone applying later than 1872 (or not at all) is censored.

The Kaplan-Meier survival estimates clearly show the higher secondary take-up rate, even with an overstated primary take-up rate. The hazard estimates indicate clear differences in the speed of application. Widows applying for increased pensions were much more likely to apply *quickly*. The probability of applying within a month or so of eligibility was more than 15% for an increase and slightly more than 10% for an original application. These hazards converge pretty quickly, with the likelihood of making an application hovering around zero after 36 months. Thus, pension applications tended to happen pretty quickly or not at all, and were faster and more common for pension increases.

6 Explaining non-participation among Union Army widows

The pension take-up rate of Union Army widows is lower but comparable to take-up rates of modern federal programs. And the secondary take-up rate among Union Army widows is very high. Still, take-up was not complete in either case, and it is not obvious why. In general, we can think about non-participation occurring for two reasons. First, the eligible person does not know about the program, or does not understand that she is eligible. Second, the eligible person knows about the program, but makes the decision not to apply because the costs outweigh the benefits. An investigation of the correlates of take-up of the Union Army pension will shed light on the extent to which these factors are important.

To analyze the correlates of initial take-up, I use widows linked to the 1860 census who were married to soldiers known to have died during the war. Because there are often military records of wartime deaths, it is not necessary for a dependent to have filed a pension application in order for me to know that a soldier died during the war. So, from military and pension data alone, I have a list of *all* soldiers who died in the war and whose dependents filed pension claims and *some* war dead whose dependents did not. Using links to the 1860 census allows me to infer which soldiers were married in 1860, and thus

left widows eligible for a pension. Widows who filed for a pension are overrepresented in this sample, so it gives a skewed picture of the rate of take-up. However, it can be used to evaluate the correlates of take-up, subject to a few caveats.

First of all, spousal information from pension applications is used to make census links. If a soldier died during the war and no dependent of his ever claimed a pension, there is no family information available to aid in linking to the census. This means that the characteristics of soldiers linked to the 1860 census might differ systematically based on whether or not their widows applied for a pension. For one thing, the linkage error rate might be higher among soldiers whose wives weren't pensioned. In addition, soldiers with no dependent pension applications on file who are linked to the 1860 census may have more unique characteristics, which make linkages possible – more unusual names, more uncommon birthplaces or places of residence, etc. This should be kept in mind when comparing pensioned and un-pensioned widows using census links.

Characteristics observable for applicants and non-applicants include: census variables (age, nativity, literacy, husband's socioeconomic characteristics, county characteristics) and variables from soldiers' compiled service records (death date, enlistment information and company-level characteristics). I present summary statistics for applicants and non-applicants in Table 2, including t-tests for equality of means across groups. In Table 3, I present results from linear probability models in which I regress an indicator for the widow having applied for a pension by 1870 on observable characteristics. Women widowed in their 30s with at least one child in 1860 were most likely to apply for pensions. Foreign-born women were significantly less likely to apply than native-born women. Women married to household heads were substantially more likely to apply than married women living in multifamily households.

Socioeconomic status is correlated with pension application. Widows from wealthier families were less likely to apply, although this largely reflects geographic differences in application rates: the difference is not statistically significant conditional on state fixed effects. Women married to white collar workers or men who report no occupation were least likely to apply for a pension. Women married to men who served in companies with a higher death rate are more likely to apply. Women from more rural counties with a lower male-to-female ratio are more likely to apply, although the latter result does not survive the inclusion of additional controls. Women from the Northeast are overrepresented in the applicant pool, and women from the Midwest are underrepresented.

To analyze the correlates of secondary take-up, I use a sample of women whose husbands died during the war, who have at least one minor child in 1866, and who applied for an original pension before July 25, 1866. To avoid limiting the sample size further, I do not require these women to have been linked to the 1860 census. Thus, I am able to look at variables from the original pension application

to characterize determinants of take-up. These include characteristics of the widow (age, number and age of children), her husband (death date, enlistment variables, and company-level characteristics), her county of residence at the time of initial application (based on aggregate census data from Haines and ICPSR 2010), and characteristics of her first application (time to application, decision, and use of a lawyer).

Table 4 presents the average characteristics of applicants and non-applicants for pension increases. Table 5 contains results from regressions of an indicator equal to one if a widow applied for a pension increase within five years of becoming eligible on salient characteristics. In some cases, observables predict initial and secondary take-up in a similar fashion. As was the case with initial applications, women in their 30s were most likely to file for a pension, as were women with more children. Women from the northeast were more likely to apply than women from the midwest. Otherwise, geographic variables have a different effect on secondary take-up compared with primary take-up. Unlike initial applications, increase applications were more likely to come from widows living in more densely populated counties with greater railroad density.

While certain differences between applicants and non-applicants can be seen in Table 4, very few of these are statistically significant when included in the same regression model, and the explanatory power of these observables is very low. In most columns of Table 5, the adjusted R^2 values are negative, which is quite different from Table 3. The only variable with real power to explain variation in secondary take-up is the outcome of the initial pension application. Women whose initial pension applications had not been approved within five years of applying were substantially less likely to apply for a pension increase.

Figures 3 through 8 plot survival and hazard functions for original and secondary pension applications, separated by observable characteristics. Again, these figures capture differences in the speed of application as well as the binary outcome of applying or not applying within a particular time frame.

What do these results indicate about the reasons for non-participation among UA widows? In particular, do they suggest that non-participation is primarily driven by information costs or administrative costs? It is difficult to say for certain, as many observables may plausibly be related to both. Some results are more suggestive of information costs driving non-participation, while others suggest a larger role for administrative costs (more on this below). As is the case for modern programs, it is likely that both information and transaction costs were drivers of non-participation.

First, the evidence is consistent with some non-participation stemming from lack of information. Widows whose husbands served in companies with higher wartime death rates were significantly more likely to apply for a pension. Table 3 indicates that a one standard deviation increase in a widow's

husband’s company’s death rate increases the likelihood of applying for a pension by roughly 4 percentage points. Moreover, Figure 3 shows that widows of soldiers from companies with higher death rates applied for original pensions much *faster*. This suggests that information was a channel through which the death rate affected take-up. Companies were organized locally, so a higher company death rate implies a larger local network of eligible widows. Interestingly, the company death rate matters much less for the binary outcome of secondary application. Still, widows with a larger local network of widows applied for pension increases more quickly, as can be seen in the bottom panel of Figure 3. Also note that foreign born widows were roughly 10 percentage points less likely to apply for a pension than native born widows, suggesting a role for informational networks as well. On the other hand, newspaper density has no impact on the take-up rate or speed of application.

Geographic differences in take-up may also be related to information. In general, participation is highest and fastest in the northeast. There are multiple plausible explanations for regional variation in take-up, some related to information and others related to costs. While there regional differences in both initial and secondary take-up, there is a much larger difference in the *speed* of application for a pension increase. In Figure 4, it is clear that pension increase applications are made significantly faster in the northeast than the midwest; this is true to a lesser extent for initial applications. Figure 5 shows that railroad density (within states) is associated with much faster secondary applications, but not initial applications. A similar but less pronounced pattern exists if the sample is split by population density (conditional on state fixed effects; not shown).

Why might information about pension eligibility disseminate more quickly in more connected counties, and why does this seem to matter more for secondary applications? One explanation has to do with access to networks of fellow pensioners. Widows (like veterans) were paid pensions quarterly, and payments were made from pension agencies located in a handful of cities around the country. Pensions had to be collected in person, which necessitated travel if the pensioner did not live in a city with a pension agency in it. Widows could empower an attorney or agent to collect pensions on their behalf, which was relatively secure as pensions were paid by check rather than currency.⁹ Ease of travel may have increased the likelihood that a widow collected her pension on her own behalf, which meant standing in a long line and conversing with other pensioners. This is reported in multiple newspapers.¹⁰ For example, an 1869

⁹A *New York Times* article from 1869 reports on a request by pension attorneys in Pennsylvania to the Secretary of the Interior for “both their fees and the pensioners’ money to be paid in currency,” rather than check on the U.S. Treasury. The Secretary of the Interior denied the request, maintaining that “the Department is in possession of proof that the pensions paid to pensioners are so often sadly reduced at the hands of middle-men that it feels bound to use every measure in its power to prevent what has become a notorious abuse” (*NYT* 1869).

¹⁰Most newspaper reports on “pension day” are single sentences, and likely included as filler. For instance: “Yesterday was pension day; A large number of pensioners in town signing their vouche for their quarterly payments” (Jonesborough, TN *Herald and Tribune*, 1874).

article in Lancaster, Pennsylvania's *Intelligencer Journal* titled "Pension Day" describes a "real crowd in front of the different offices waiting to be served with the stamps of Uncle Sam." The article notes that "a large company of widows were there" and describes the conversation as "animated," suggesting that "the widows, with an eye to the chance to be paid early, listened to the brave deeds of warriors who had done themselves injury and the State some service" (*Intelligencer Journal* 1869).

It is also possible that widows in the northeast had access to a denser network of pension attorneys, who disseminated information about eligibility. Moreover, factors like railroad access and population density might have increased the net gains from pension increase applications, if widows who did not find the act of collecting the pension too onerous were the ones who expected to keep collecting for more time.

The evidence also suggests that some of the non-participation among Union Army widows was driven by women weighing costs and benefits of application and choosing not to apply. Age and number of children has a significant effect on the probability of applying. Women who were less than 30 years old when they became eligible were least likely to apply, and women who became eligible in their 30s were most likely to apply. This is true of both initial and secondary applications, although the differences for secondary applications are not significant. Differences in the speed of application by age are less pronounced, especially for secondary applications (see Figure 6), suggesting that age differences in participation are driven by costs and benefits rather than access to information.

Children have an impact on the decision to apply for a pension, although this effect is not significant when all controls are added. Women who have no children in 1860 are less likely to apply for a pension, and more children are associated with a greater likelihood of applying. While women with three or more children are highly likely to apply for a pension, they were slower to make applications (see Figure 7). This fastest applicants were those with exactly two children. Regressions in Table 5 include a control for the present value of the widow's lifetime pension increase at the time of eligibility.¹¹ Conditional on controls for number of children, this reflects variation in the age of the widow's children. Widows with a larger total pension increase at stake were more likely to apply for these increases.

Age and number of children likely affected the net benefit from applying for a pension because they affected a widow's remarriage prospects. Young widows with no children were extremely likely to remarry, whereas older widows with more children were not (Salisbury 2017). As eligibility ceased upon remarriage, this means the lifetime benefit from applying for a pension was lower for younger and childless widows. In many cases, it seems the benefits did not exceed the substantial costs associated

¹¹This is calculated by summing the annual pension increase for children over the years until they reach age 16, discounting annual at a rate of six percent. Such a measure is not included for original pension applications, as pension amounts were identical for all widows.

with applying (see Section 3). The much higher rate of application for pension increases suggests that there were high costs associated with making an initial application, which were lower for secondary applications. This is also consistent with the fact that age and children have a less pronounced effect on secondary applications.

The one factor that mattered significantly for secondary applications was the outcome of the initial pension application. This can be seen in Figure 8. This supports the conjecture that non-participation was in part driven by a rational cost-benefit analysis on the part of widows. Those widows whose initial applications were not approved within five years (only some of these widows' claims were rejected; others were merely slow to process) were very unlikely to file for an increase, presumably because these women perceived a diminished benefit from filing an application and were unwilling to incur the associated costs.

7 Explaining the high participation rate among Union Army widows

The paper has focused on characterizing take-up of the Union Army pension among widows early in the life of the program. The most striking result is the relatively high participation rate. Women who became widowed during the war years participated in the pension program at rate that is lower than the take-up rate of most major federal programs today, but not by much. The take-up rate of the UA widows pension was certainly lower than that of the EITC, and likely somewhat lower than UI and SNAP. However, the take-up rate was almost certainly higher than (post-welfare reform) TANF. Conditional on eligibility, widows applied for benefit increases at a rate of roughly 80%, which is very comparable to the take-up rate of the EITC, a program that must be applied for annually (by filing a tax return).

It is not obvious how information costs should be ordered between the UA widows' pension and modern social programs. Information technology is certainly more developed today, which ought to make acquiring information about programs easier. Still, UA pensions were very well publicized. All amendments to the federal pension law were published verbatim in national and local newspapers. Pension attorneys had a strong financial incentive to disseminate information about pensions to the public, which was often done by newspaper. Pension attorneys advertised extensively in newspapers, and in some cases they operated veterans' newspapers themselves (Blanck and Song 2002). That said, living in a county with greater newspaper access in no way predicts filing for a widows' pension (see Tables 3 and 5). Instead, some of the evidence points to network effects, which is also an important avenue through which information about modern programs is disseminated (Bertrand et al 2000; Duflo

and Saez 2002; Borjas and Hilton 1996). Finally, with an absence of competing social programs available to Union Army widows, there was perhaps less informational complexity to navigate. This is a known source of incomplete take-up of modern programs (Bhagarva and Manoli 2015).

Administrative costs are shown to have a first order effect on participation in modern programs. How do these compare with costs associated with applying for a UA pension? Recall from Section 3 that applying for a widows' pension was a significant undertaking. Pension declarations (required for both original and secondary applications) had to be made before a court of record. Widows had to assemble supporting records or testimony (which could be taken before a justice of the peace rather than a court official). For initial applications, a widow had to furnish evidence of her husband's military service and the circumstances of his death, as well as proof of their marriage. For increase applications, a widow needed to provide proof of the birth dates of her and her deceased husbands' children. Collecting pensions was also costly, involving travel in many cases.

These costs are clearly lower than the costs of applying for EITC or UI benefits. Neither involves a court appearance or travel to a central office. To apply for both EITC and UI benefits, supporting documentation must be provided. However, improvements in information technology make obtaining and submitting this documentation easier than it was in the 1860s. Thus, it is striking that the take-up rate of the UA widows' pension compares so favorably to both of these programs, especially in the case of secondary take-up.¹²

Post-welfare reform TANF makes for an interesting comparison. It is very likely that the take-up rate of the UA widows' pension is higher than the take-up rate of TANF. Applying for TANF is much more involved than applying for either EITC or UI benefits. A visit to a county welfare office is required, as is in-person consultation with a case manager. This is owing to the complexity of eligibility requirements and the consequent difficulty of verifying eligibility. A major cost of participation in TANF stems from work requirements, which were instituted as part of PRWORA in 1996. These are thought to have materially impacted participation rates, especially discouraging single mothers and the poorest individuals from applying (Falk 2017).

The role of case manager makes TANF and the UA widows' pension especially interesting to compare. TANF case managers fill two key functions. First, they offer administrative support and information to facilitate the receipt of benefits. Second, they verify eligibility. These functions can be at odds with one another. Given the complexity of the TANF application process, the supportive function of the case manager doubtless lowers the cost of applying for benefits. A literature in social work argues that case

¹²Another important factor is that a widow's pension application only had to happen once. There was no repeated provision of supporting materials required. Collecting EITC and UI benefits requires repeated engagement with administrators. As such, although the one-off costs of application are higher for widows' pensions, the total cost of collecting over a prolonged period might be less.

management has traditionally focused on assessing eligibility over advocacy (Bane and Ellwood 1994). This contributes to a sense among recipients that case workers engage in “gate-keeping” (Anderson 2001) and can increase psychic costs associated with collecting TANF benefits (Hill and Cain 2012). It is difficult to quantify the costs and benefits (as perceived by recipients) associated with the case worker system, as this is a publicly provided service and a necessary element of the process.

Union Army widows applying for pensions did not have case managers. However, they did have pension attorneys. This more or less privatized one function of the case manager – administrative support, information, and advocacy – and separated it from the other – verification of eligibility. Pension attorneys were allowed to charge up to \$10 to prosecute a pension claim, which was more than a monthly widows’ pension, and more than twice the monthly pension increase for a widow with two children. However, once these fixed financial costs were incurred, the administrative burden on applicants was substantially reduced.

The fact that pension attorneys were private agents subject to little oversight opened the door for abuses, both of the pension system and pensioners themselves. Pension commissioners’ reports, as well as the popular press, are riddled with references to pension agents who falsified claims or swindled their clients.¹³ As the pension program became more politically polarizing in the 1870s, pension agents became a convenient target for those arguing against expansions to the program (Blanck and Song 2002). Many were quick to draw a distinction between “deserving” veterans and widows and fraudsters or “greedy and dishonest” pension attorneys.¹⁴

At the same time, an overwhelming majority of widows employed attorneys to prosecute their claims. Figure 9 plots the share of applicants using different types of attorneys, by application type and region of residence. Only about 10% of widows filed claims without the help of a lawyer. Most pension attorneys were from the applicant’s home state. The propensity to use a lawyer from a big Washington, DC firm varied by the widow’s region of residence. Among original claimants from the northeast, almost 20% used a DC lawyer, whereas only about 10% of applicants from the midwest used a DC lawyer. Table 6 contains results from a regression of different binary choices pertaining to lawyer use on observables,

¹³One article – widely circulated in southern newspapers, but quoted here from the *Nashville Union and American* (1870) – prints a letter from a Confederate veteran to a pension attorney, allegedly refusing the attorney’s offer to secure him a federal pension under a false name. The article decries pension brokers’ practice of “hunting up subjects all over the country to further their operations on the Treasury.” The 1883 Pension Commissioner’s report makes explicit reference to attorneys who file preliminary paperwork and obtain their ten dollar fee, only to abandon the claim before it is complete (Salisbury 2017).

¹⁴Another article, published in the *Vermont Journal* (1879), criticizes the passage of the Arrears Act of 1879, which granted veterans pensions in arrears, dating from the time of their injury, even if they had not immediately applied. The article emphasizes that “it would be a great consolation, and we might be content, if we could believe that the real soldiers, their widows and orphan children – the actually meritorious survivors of the army and navy were to be the chief recipients of this most prodigal distribution of funds in the Treasury; but then, when when we reflect that by far the greater portion of it is to go to the impecunious army of claim agents, at Washington and elsewhere, that have for a long time been marshalling their forces for this grand swoop of fortunes, achieved on the taking pretence of soldierly services, we may well dread the coming results.”

pooling initial and increase applications. Widows whose husbands died earlier in the war were more likely to file applications alone, as were widows living in less densely populated counties (conditional on state fixed effects). Among widows who used pension attorneys, older widows living in more densely populated counties were more likely to employ DC firms. Secondary applicants were significantly less likely to use DC lawyers than were original applicants.

The fact that 90% of widows were willing to pay more than a month's pension for a lawyer to handle their claims is striking. This indicates that, for most applicants, the administrative costs of applying for a pension exceeded an entire month's pay. It is hard to say by how much, as attorneys fees were regulated. It is also notable that there was ample supply of pension attorneys, and some of them became very wealthy.¹⁵ There was ample market provision of this service, which pension applicants clearly valued. This is not to say that this market worked perfectly. There was significant attorney turnover, which reflects the fact that pension attorneys did not always serve their clients well. Roughly 15% of widows fired their first pension attorneys, and less than 40% of widows applying for pension increases used the same lawyer they had used for their first application.

Table 7 contains results from a regression of pension outcomes on indicators for using different categories of pension lawyer. Columns (1) and (2) include only initial or increase applications, respectively, and control for observable characteristics of the widow and her place of residence. Columns (3) and (4) pool initial and increase applications and include individual fixed effects. This effectively controls for permanent characteristics of widows that affect decisions about attorneys and pension outcomes. It is clear from these regressions that hiring attorneys did not improve the likelihood of success or speed of processing. This is consistent with Blanck and Song (2002), who find that pension attorneys did not improve pension outcomes for disabled veterans. This indicates that pension lawyers generated value by absorbing administrative costs rather than by improving pension outcomes.

The high administrative costs associated with applying for the UA pension reflect a concern with overuse of the program, which in many ways mirrors the public conversation about welfare receipt today. The trade-off between accessibility and avoiding fraud is made explicit in the 1862 commissioner's report (as printed in Clearfield, Pennsylvania's *Raftsmen's Journal* 1862), which notes that, "Considerable difficulty has been experienced in prescribing a mode of authenticating pension claims which shall be sufficiently liberal to claimants, and at the same time protect the Government against frauds." Later pension commissioners' reports made unverifiable claims about fraud occurring in "many" or "most"

¹⁵Several anecdotes about pension attorneys advertising and seeking out clients have already been cited. For a later example, see Glasson (1918), who describes a large number of Washington, DC pension attorneys decamping to San Francisco to convince returning veterans from the Spanish-American war to file for pensions, or "to pour into the ears of such soldiers as they could glowing accounts of the system of pensions provided by law, and the merits of some particular attorney who made a business of prosecuting claims" (p. 224). The efforts attorneys spent procuring clients speaks to the profitability of this business. Major DC-based pension attorneys, such as George E. Lemon, died extremely wealthy men (Blanck and Song 2002).

pension claims, especially widows' pensions, which relied on testimony rather than surgeons' examinations.¹⁶ There is a general suspicion of pensioners' motives visible in commissioners' reports and newspaper articles. One article floats the idea that the pension system is "practically paying a large number of women for leading immoral lives. Widows forfeit their pensions by remarriage. The result is that many of them are living in concubinage for the sake of retaining their annual stipend" (*Chicago Tribune* 1875).

8 Conclusion

This paper adds to the literature on the take-up of social programs by estimating the rate of participation in America's first large-scale social assistance program, the Union Army pension. The paper focuses on take-up by Union Army widows during the early years of the program. Roughly 35-70 percent of war widows applied for a pension by 1870. Among widows who had applied for an original pension, more than 80 percent applied for pension increases once they became eligible. There is suggestive evidence that access to information – through networks rather than the press – increased take-up. And there is stronger evidence that women who perceived a larger lifetime benefit from applying were more likely to do so. This suggests that non-participation was driven in large part by the high administrative costs associated with application.

Overall, it seems that engagement with social programs has increased over time. Most modern programs (EITC, UI, SNAP) have take-up rates that are higher than the UA widows' pension, albeit not by much. A notable exception is TANF, which seems to have a take-up rate that is lower than the UA pension. This underscores the very high costs of participating in TANF following the 1996 welfare reforms.

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¹⁶The 1872 pension commissioner's report writes that, "The evidence to sustain a widow's or dependent's case is purely *ex part*. As a result of this, a very considerable percentage of those cases are wrongfully established" (United States Pension Bureau 1872).

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Tables and Figures

Table 1: Estimated Take-up Rate, Union Army Widows' Pensions, 1862-1870

	Low estimate	Preferred estimate	High estimate
(1)	Probability of application by 1870 if widowed during war, UA database		
$Pr(APP_{1870}, D_{1865}, M)$	0.037	0.039	0.041
$Pr(D_{1865})$	0.134	0.17	0.20
$Pr(M)$	0.32	0.46	0.52
Take-up rate	0.35	0.50	0.95
(2)	Probability of application by 1870 if widowed during war and married in 1860, UA database + 1860 census links		
Take-up rate			0.76
(3)	Probability of application for increase for minor children, All pre-1866 applicants with children		
Take-up rate	0.60		0.65
(4)	Probability of application for increase for minor children, Eligible pre-1866 applicants with children		
Take-up rate	0.77		0.89

Note. Microdata from Fogel et al (2000) and Salisbury (2017). See text for details.

Table 2: Characteristics of War Widows by Application Status

Variable	Mean, Non-applicants	Mean, Applicants	Difference
Age at widowhood	31.06	32.94	1.89***
# Children < 14, 1860	1.62	2.20	0.58***
Age oldest child < 14, 1860	6.99	7.14	0.15
Age youngest child < 14, 1860	3.04	2.87	-0.16
Spousal age gap (recruit - wife)	2.98	4.10	1.12***
Recruit HH head, 1860	0.76	0.97	0.21***
Wife literate, 1860	0.91	0.92	0.00
Wife foreign born, 1860	0.18	0.13	-0.05*
Recruit foreign born, 1860	0.16	0.16	0.00
Family personal property, 1860	0.46	0.17	-0.29***
Family real property, 1860	1.03	0.50	-0.53***
Recruit farmer, 1860	0.31	0.31	0.00
Recruit skilled white collar, 1860	0.05	0.03	-0.02
Recruit skilled blue collar, 1860	0.10	0.22	0.13***
Recruit laborer, 1860	0.24	0.22	-0.02
Recruit no occupation, 1860	0.31	0.22	-0.09***
Recruit's year of death	1863.26	1863.36	0.10
Enlisted as Private	0.87	0.87	0.01
Company death rate	0.20	0.22	0.01
1000's of ppl per sq. mile, 1860	1.24	0.96	-0.28
County railroad access, 1860	0.81	0.80	-0.01
County newspapers per 1000 ppl, 1860	0.10	0.10	0.00
County male-female ratio, 1860	1.06	1.05	-0.01*
New England, 1860	0.31	0.44	0.13***
Midwest, 1860	0.63	0.49	-0.14***
South, 1860	0.05	0.06	0.01

Note. Microdata from Fogel et al (2000); county-level aggregate census data from Haines and ICPSR (2010); county-level railroad data from Atack (2017); county-level newspaper data from the Library of Congress. Sample consists of women married to UA recruits killed during the war, who were linked to the 1860 federal census, and includes 234 non-applicants and 577 applicants. Final column indicates significance of difference between non-applicants and applicants, using standard errors clustered by county for geographic variables and company for company-level variables: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 3: Determinants of Take-up: Initial Application

Dep. var.	(1)	(2)	(3)	(4)	(5)	(6)
		=1 if widow applied for pension before 1870				
Widow age 30-39	0.046 (0.034)	0.096 (0.041)**	0.108 (0.037)***			0.109 (0.041)***
Widow age 40+	-0.007 (0.046)	0.034 (0.059)	0.032 (0.053)			0.037 (0.051)
No minor children	-0.117 (0.050)**		-0.007 (0.045)			-0.010 (0.049)
2 minor children	0.054 (0.052)	0.086 (0.054)	0.048 (0.049)			0.050 (0.050)
3+ minor children	0.094 (0.045)**	0.178 (0.073)**	0.040 (0.043)			0.040 (0.047)
Age oldest child < 14, 1860		-0.013 (0.008)				
Age youngest child < 14, 1860		0.008 (0.010)				
Wife foreign born, 1860			-0.139 (0.053)***			-0.103 (0.053)*
Wife literate, 1860			0.046 (0.057)			0.032 (0.062)
Spousal age gap (recruit - wife)			0.027 (0.017)			0.026 (0.019)
Recruit HH head, 1860			0.443 (0.071)***			0.439 (0.069)***
Log family property			-0.004 (0.020)			-0.012 (0.020)
Recruit farmer, 1860			-0.046 (0.052)			-0.055 (0.048)
Recruit skilled white collar, 1860			-0.164 (0.099)*			-0.180 (0.086)**
Recruit skilled blue collar, 1860			0.048 (0.047)			0.019 (0.051)
Recruit no occ., 1860			-0.178 (0.079)**			-0.214 (0.079)***
Recruit year of death				0.021 (0.019)		0.009 (0.019)
Enlisted as Private				-0.015 (0.046)		-0.058 (0.049)
Company death rate				0.043 (0.019)**		0.039 (0.018)**
1000's of ppl per sq. mile, 1860					-0.020 (0.008)**	-0.038 (0.019)**
County railroad access, 1860					-0.004 (0.020)	-0.006 (0.020)
County newspapers per capita, 1860					-0.021 (0.021)	-0.014 (0.020)
County male-female ratio, 1860					-0.007 (0.030)	-0.017 (0.029)
Observations	808	604	750	792	806	728
Adjusted R^2	0.056	0.018	0.145	0.027	0.024	0.152

Note. Microdata from Fogel et al (2000); county-level aggregate census data from Haines and ICPSR (2010); county-level railroad data from Atack (2017); county-level newspaper data from the Library of Congress. Sample consists of women married to UA recruits killed during the war, who were linked to the 1860 federal census. All regressions include 1860 state of residence fixed effects. Standard errors, clustered by 1860 county of residence, in parentheses: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table 4: Characteristics of Eligible War Widows by Application Status: Pension Increase for Minor Children

Variable	Mean, Non-applicants	Mean, Applicants	Difference
Age at eligibility	31.42	34.20	2.77***
# Children < 16	2.55	2.68	0.12
Age oldest child < 16, 1866	8.98	10.00	1.01*
Age youngest child < 16, 1866	5.04	5.62	0.59
Recruit's year of death	1863.59	1863.46	-0.13
Enlisted as Private	0.84	0.89	0.05
Company death rate	0.19	0.20	0.01
First app. approved w/in 5 yrs	0.73	0.96	0.23***
Months to first app.	6.29	5.70	-0.59
Specialist lawyer, first app.	0.25	0.26	0.01
Local lawyer, first app.	0.66	0.63	-0.03
No lawyer, first app.	0.09	0.11	0.02
1000's of ppl per sq. mile, 1860	0.20	1.78	1.57***
County railroad access, 1860	0.77	0.86	0.09*
County newspapers per 1000 ppl, 1860	0.10	0.10	0.00
County male-female ratio, 1860	1.07	1.04	-0.04***
New England, 1860	0.35	0.47	0.12
Midwest, 1860	0.63	0.47	-0.16**
South, 1860	0.02	0.03	0.01

Note. Microdata from Fogel et al (2000) and Salisbury (2017); county-level aggregate census data from Haines and ICPSR (2010); county-level railroad data from Atack (2017); county-level newspaper data from the Library of Congress. Sample consists of women married to UA recruits killed during the war, who (i) had applied for an original pension before July 25, 1866; (ii) had not remarried or died before July 25, 1866; and (iii) had at least one minor child on July 25, 1866. Sample includes 56 non-applicants and 344 applicants. Final column indicates significance of difference between non-applicants and applicants, using standard errors clustered by county for geographic variables and company for company-level variables: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 5: Determinants of Take-up: Increase Application

Dep. var.	(1)	(2)	(3)	(4)	(5)
	Applied for increase w/in 5 yrs				
Age 30-39 eligibility	0.082 (0.049)*				0.036 (0.052)
Age 40+ eligibility	0.042 (0.062)				0.040 (0.060)
2 minor children	0.019 (0.056)				0.017 (0.057)
3+ minor children	0.018 (0.071)				-0.016 (0.074)
PV lifetime pension	0.049 (0.034)				0.086 (0.035)**
Veteran's year of death		-0.005 (0.022)			-0.006 (0.022)
Enlisted as Private		0.051 (0.070)			0.085 (0.073)
Company casualty rate		0.015 (0.022)			0.020 (0.022)
County newspapers per capita			0.016 (0.030)		-0.001 (0.027)
County pop. density			0.008 (0.010)		0.007 (0.011)
County railroad access			0.042 (0.028)		0.036 (0.023)
County male-to-female ratio			-0.061 (0.043)		-0.057 (0.038)
Time to first app.				0.028 (0.035)	
First app. approved				0.467 (0.093)***	0.461 (0.101)***
Non-local lawyer, 1st app.				-0.053 (0.076)	-0.069 (0.076)
Local lawyer, 1st app.				-0.022 (0.063)	-0.025 (0.063)
Observations	374	374	376	379	362
Adjusted R^2	-0.002	-0.017	0.001	0.082	0.098

Note. Microdata from Fogel et al (2000) and Salisbury (2017); county-level aggregate census data from Haines and ICPSR (2010); county-level railroad data from Atack (2017); county-level newspaper data from the Library of Congress. Sample consists of women who filed for an original pension before July 25, 1866, and had not remarried or died before that date. All regressions include state of residence fixed effects. Standard errors, clustered by county of residence at time of first pension application, in parentheses: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 6: Determinants of Widows' Employment of Pension Attorneys

Dep. var.	(1)	(2)	(3)	(4)	(5)	(6)
		No lawyer			DC lawyer	
Age 30-39 eligibility	0.018 (0.025)		0.024 (0.025)	0.064 (0.029)**		0.064 (0.029)**
Age 40+ eligibility	0.009 (0.029)		0.019 (0.029)	0.020 (0.038)		0.022 (0.038)
1 minor child	0.022 (0.035)		0.018 (0.035)	-0.008 (0.047)		-0.003 (0.046)
2 minor children	-0.005 (0.034)		-0.010 (0.034)	0.018 (0.046)		0.017 (0.044)
3+ minor children	0.019 (0.035)		0.015 (0.034)	-0.014 (0.045)		-0.003 (0.042)
Veteran's year of death	-0.022 (0.011)*		-0.020 (0.011)*	-0.004 (0.018)		-0.005 (0.018)
Enlisted as Private	-0.025 (0.035)		-0.005 (0.033)	0.024 (0.041)		0.026 (0.043)
Company casualty rate	0.010 (0.012)		0.009 (0.012)	0.011 (0.017)		0.007 (0.018)
County newspapers per capita		-0.009 (0.010)	-0.006 (0.011)		0.014 (0.018)	0.007 (0.018)
County pop. density		-0.014 (0.007)**	-0.015 (0.007)**		0.035 (0.011)***	0.036 (0.011)***
County railroad access		0.009 (0.016)	0.011 (0.017)		0.023 (0.020)	0.022 (0.020)
County male-to-female ratio		0.009 (0.013)	0.012 (0.013)		0.048 (0.029)*	0.049 (0.029)*
Increase Application	0.011 (0.023)	0.013 (0.021)	0.007 (0.023)	-0.068 (0.029)**	-0.059 (0.027)**	-0.063 (0.028)**
Observations	970	973	939	873	881	848
r2_a	0.021	0.016	0.018	0.075	0.083	0.081

Note. Microdata from Fogel et al (2000) and Salisbury (2017); county-level aggregate census data from Haines and ICPSR (2010); county-level railroad data from Atack (2017); county-level newspaper data from the Library of Congress. All regressions include state of residence fixed effects. Standard errors clustered by county in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

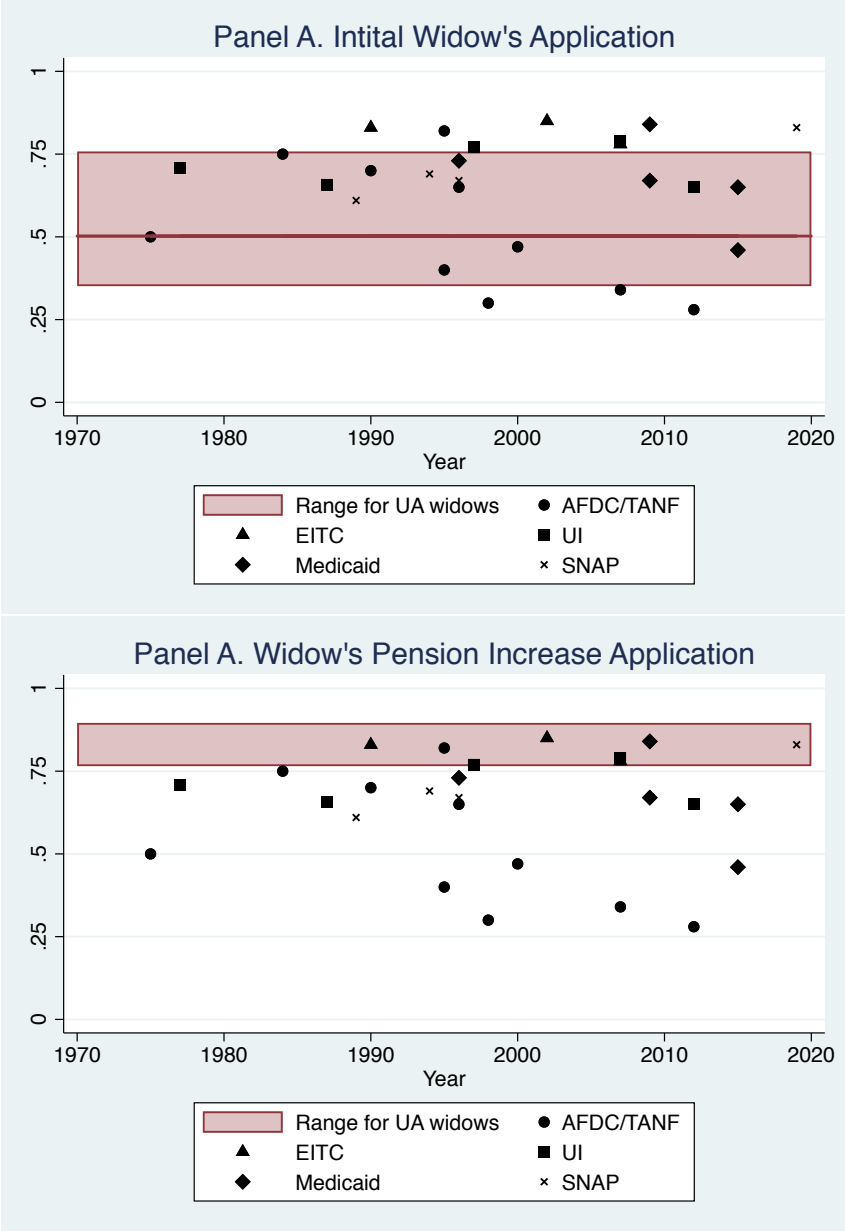
Table 7: Effect of Pension Attorneys on Pension Outcomes

	(1)	(2)	(3)	(4)
Dep. var.		Never pensioned		
DC lawyer	-0.017 (0.045)	0.022 (0.058)	0.049 (0.039)	0.049 (0.039)
Other lawyer	-0.077 (0.048)	-0.045 (0.054)	-0.006 (0.036)	-0.006 (0.036)
Local lawyer	-0.029 (0.037)	-0.026 (0.047)	-0.018 (0.034)	-0.018 (0.034)
Observations	658	322	1078	702
Adjusted R^2	0.007	0.018	0.060	0.058
Dep. var.		Not pensioned w/in 10 years		
DC lawyer	0.011 (0.051)	-0.019 (0.088)	0.009 (0.044)	0.009 (0.044)
Other lawyer	-0.037 (0.064)	-0.096 (0.085)	-0.064 (0.049)	-0.064 (0.050)
Local lawyer	0.005 (0.042)	-0.121 (0.072)*	-0.066 (0.043)	-0.066 (0.043)
Observations	658	322	1078	702
Adjusted R^2	0.014	0.020	0.057	0.055
Dep. var.		Months to issuance of certificate		
DC lawyer	4.358 (3.587)	-5.375 (3.646)	1.468 (2.865)	1.468 (2.870)
Other lawyer	1.112 (4.026)	-2.876 (4.129)	0.030 (3.377)	0.030 (3.382)
Local lawyer	-1.757 (3.009)	-4.148 (3.727)	0.410 (2.711)	0.410 (2.716)
Observations	593	295	977	660
Adjusted R^2	0.047	0.027	0.073	0.071

Specification 1st app., controls 2nd app., controls Widow FEs Widow FEs, balanced

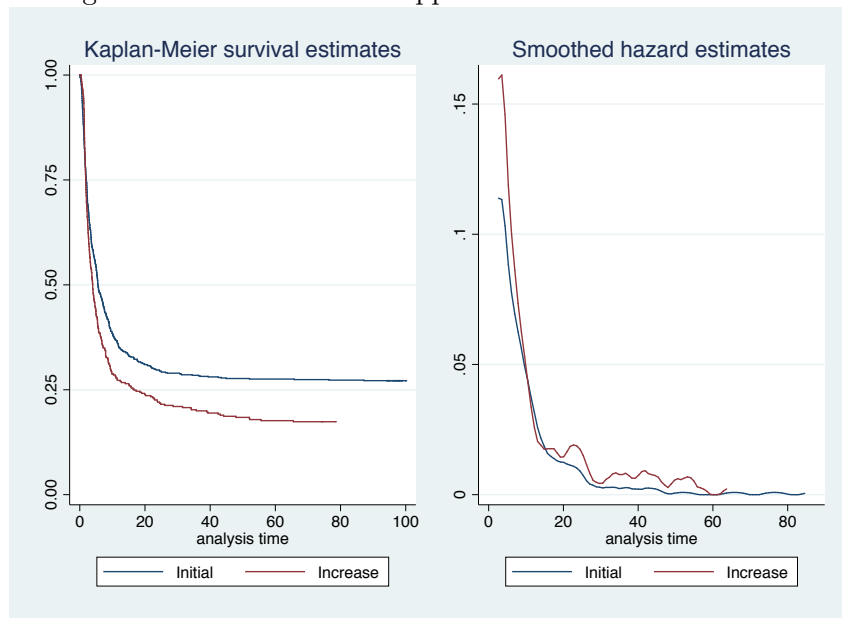
Note. Microdata from Fogel et al (2000) and Salisbury (2017); county-level aggregate census data from Haines and ICPSR (2010); county-level railroad data from Attack (2017); county-level newspaper data from the Library of Congress. All regressions include state of residence fixed effects. Standard errors clustered by county in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Figure 1: Take-up Rate of Modern American Social Programs vs Union Army Widow's Pension



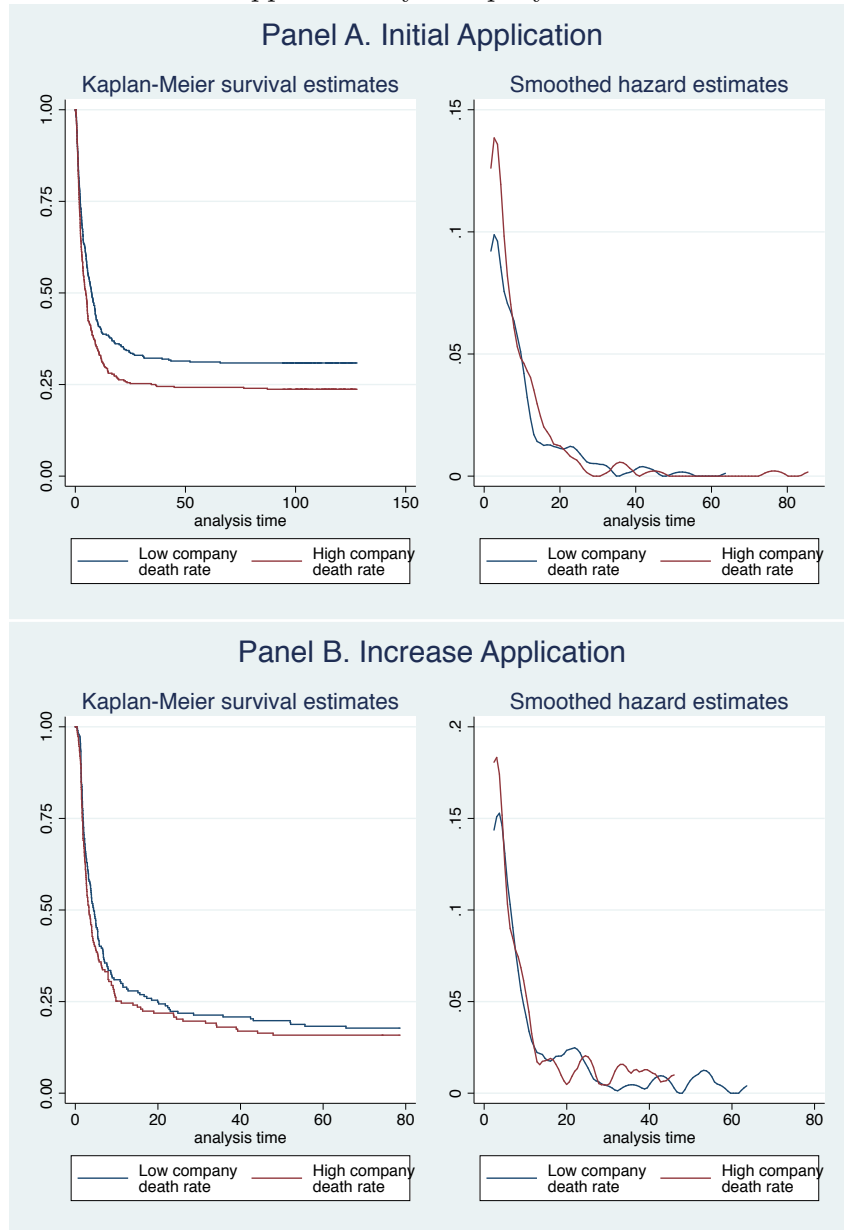
Note. Range of values for take-up rate of UA pension based on author's calculations using data from Fogel et al (2000) and Salisbury (2017). Take-up rates for modern programs from Currie (2004) and Ko and Moffitt (2022).

Figure 2: Rate of Pension Application: Initial and Increase



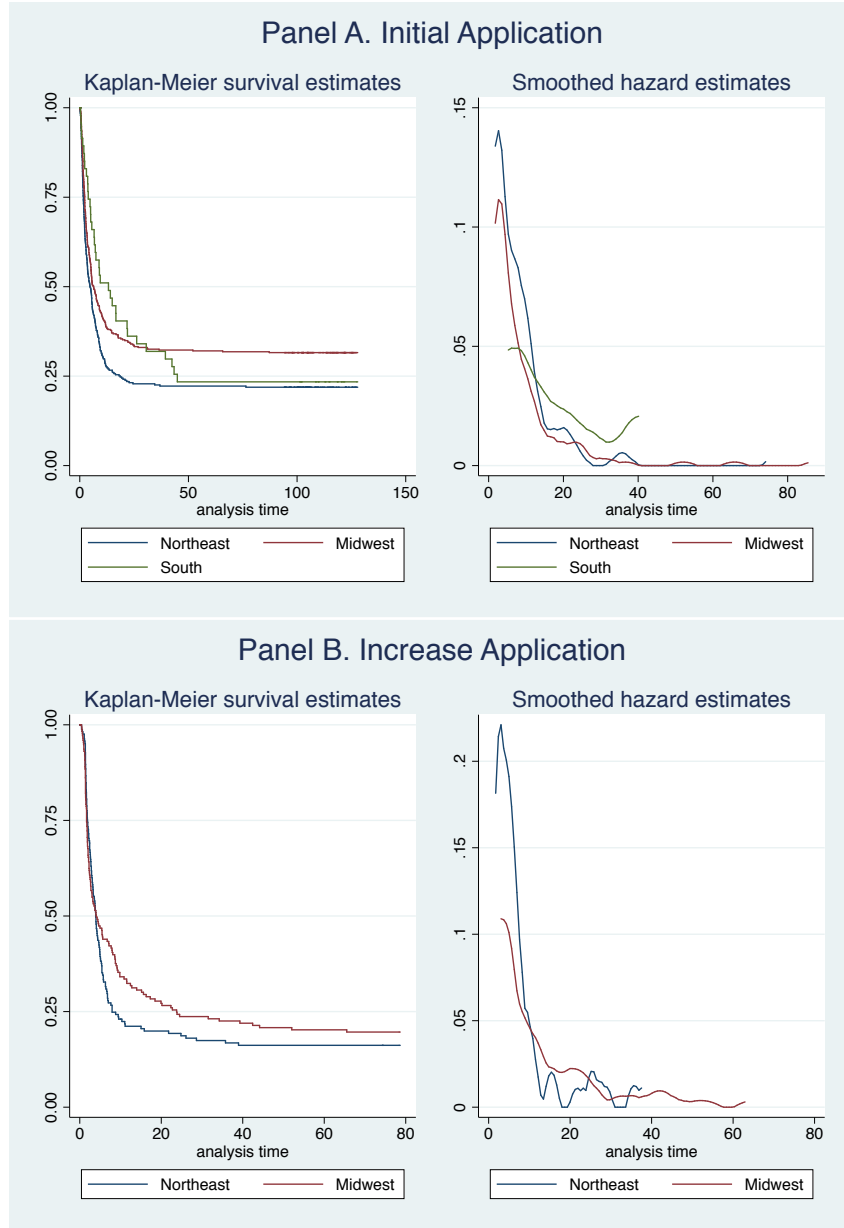
Note. Microdata from Salisbury(2017) and Fogel et al (2000). Sample of women eligible for initial pension: women who are linked to the 1860 census and are married to a Union army soldier who died during the war. Sample of women eligible for pension increase: women whose husbands dies during the war, who applied for a pension before July 25, 1866, and who have at least one child under the age of 16 as of July 25, 1866. Women enter the sample on the date they become eligible for the pension. For the initial pension application, this is the date of her husband’s death or July 14, 1862, whichever is later. For the pension increase, this is July 25, 1866. The sample period ends at the end of 1872. A “failure” occurs when a widow files a pension application.

Figure 3: Rate of Pension Application by Company Death Rate: Initial and Increase



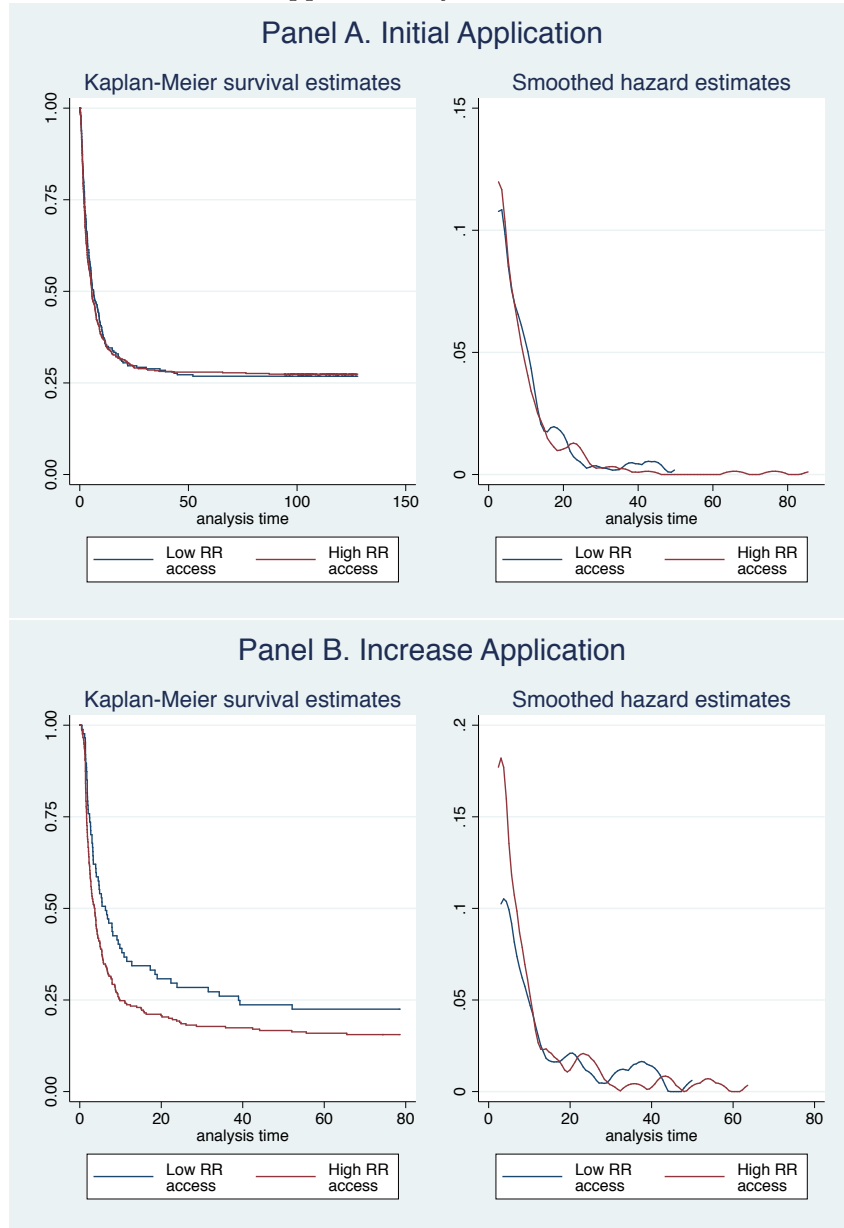
Note. Microdata from Salisbury(2017) and Fogel et al (2000). Sample of women eligible for initial pension: women who are linked to the 1860 census and are married to a Union army soldier who died during the war. Sample of women eligible for pension increase: women whose husbands dies during the war, who applied for a pension before July 25, 1866, and who have at least one child under the age of 16 as of July 25, 1866. Women enter the sample on the date they become eligible for the pension. For the initial pension application, this is the date of her husband’s death or July 14, 1862, whichever is later. For the pension increase, this is July 25, 1866. The sample period ends at the end of 1872. A “failure” occurs when a widow files a pension application. A “high” company death rate is above the median, and a “low” company death rate is below.

Figure 4: Rate of Pension Application by Region: Initial and Increase



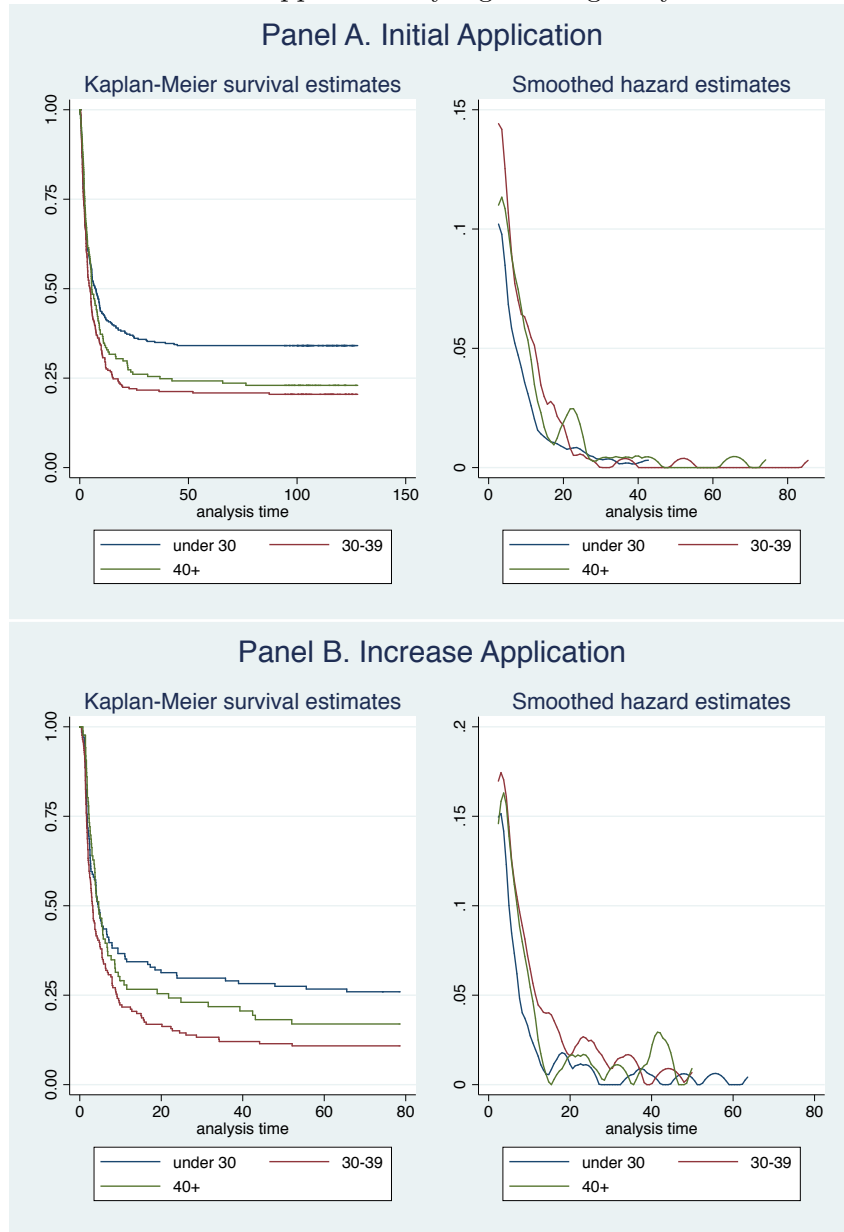
Note. Microdata from Salisbury(2017) and Fogel et al (2000). Sample of women eligible for initial pension: women who are linked to the 1860 census and are married to a Union army soldier who died during the war. Sample of women eligible for pension increase: women whose husbands dies during the war, who applied for a pension before July 25, 1866, and who have at least one child under the age of 16 as of July 25, 1866. Women enter the sample on the date they become eligible for the pension. For the initial pension application, this is the date of her husband’s death or July 14, 1862, whichever is later. For the pension increase, this is July 25, 1866. The sample period ends at the end of 1872. A “failure” occurs when a widow files a pension application.

Figure 5: Rate of Pension Application by Railroad Access: Initial and Increase



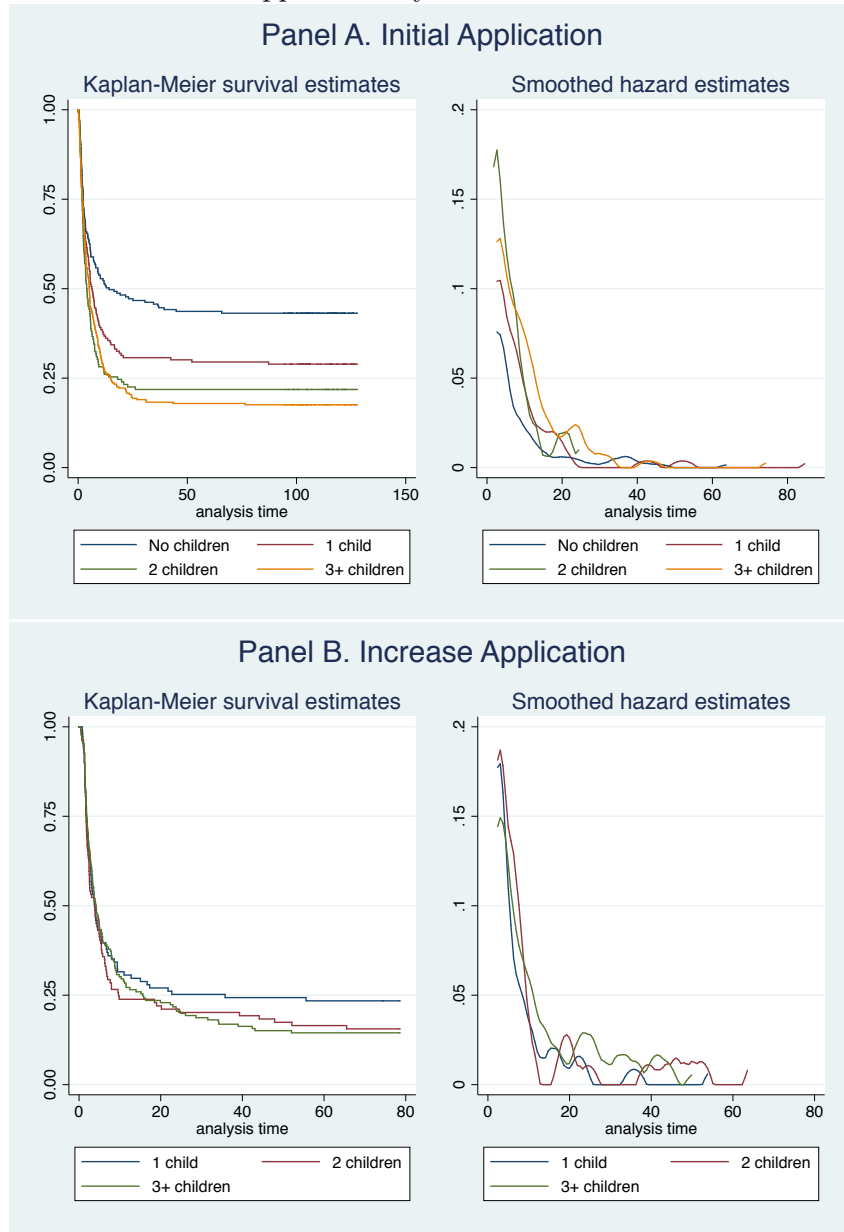
Note. Microdata from Salisbury(2017) and Fogel et al (2000); Railroad data from Atack (2017). Sample of women eligible for initial pension: women who are linked to the 1860 census and are married to a Union army soldier who died during the war. Sample of women eligible for pension increase: women whose husbands dies during the war, who applied for a pension before July 25, 1866, and who have at least one child under the age of 16 as of July 25, 1866. Women enter the sample on the date they become eligible for the pension. For the initial pension application, this is the date of her husband’s death or July 14, 1862, whichever is later. For the pension increase, this is July 25, 1866. The sample period ends at the end of 1872. A “failure” occurs when a widow files a pension application. Categories of railroad access determined by residuals from regression of county railroad density on state fixed effects.

Figure 6: Rate of Pension Application by Age at Eligibility: Initial and Increase



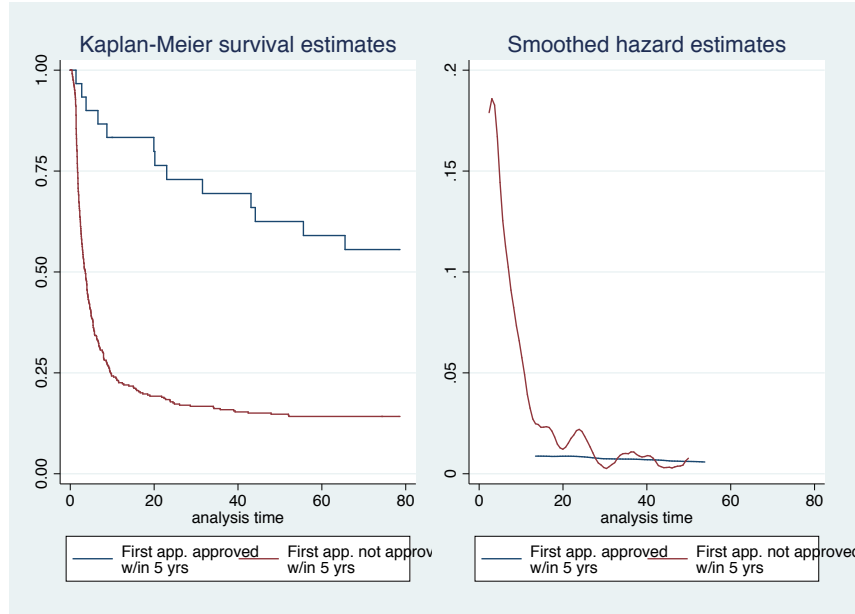
Note. Microdata from Salisbury(2017) and Fogel et al (2000). Sample of women eligible for initial pension: women who are linked to the 1860 census and are married to a Union army soldier who died during the war. Sample of women eligible for pension increase: women whose husbands dies during the war, who applied for a pension before July 25, 1866, and who have at least one child under the age of 16 as of July 25, 1866. Women enter the sample on the date they become eligible for the pension. For the initial pension application, this is the date of her husband’s death or July 14, 1862, whichever is later. For the pension increase, this is July 25, 1866. The sample period ends at the end of 1872. A “failure” occurs when a widow files a pension application.

Figure 7: Rate of Pension Application by Number of Children: Initial and Increase



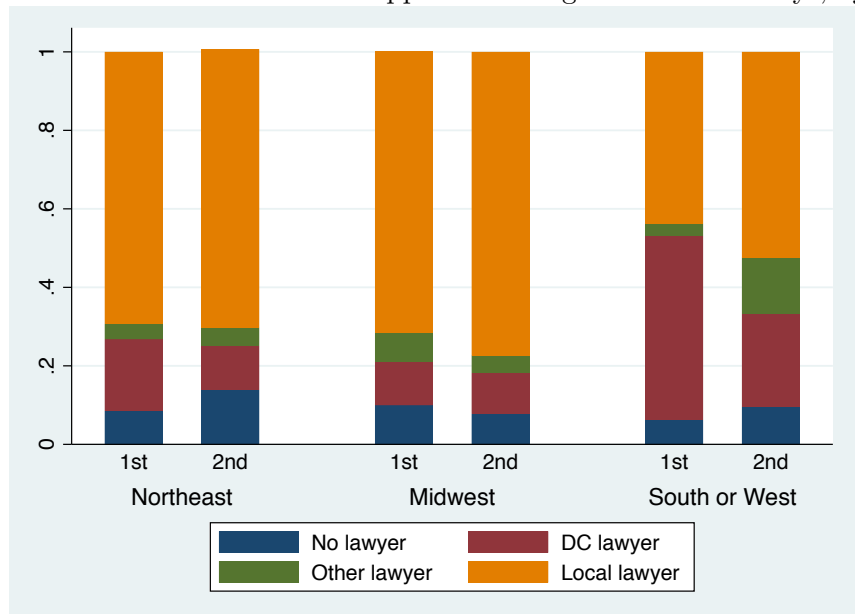
Note. Microdata from Salisbury(2017) and Fogel et al (2000). Sample of women eligible for initial pension: women who are linked to the 1860 census and are married to a Union army soldier who died during the war. Sample of women eligible for pension increase: women whose husbands dies during the war, who applied for a pension before July 25, 1866, and who have at least one child under the age of 16 as of July 25, 1866. Women enter the sample on the date they become eligible for the pension. For the initial pension application, this is the date of her husband’s death or July 14, 1862, whichever is later. For the pension increase, this is July 25, 1866. The sample period ends at the end of 1872. A “failure” occurs when a widow files a pension application.

Figure 8: Rate of Application for Pension Increase by Outcome of First Application



Note. Microdata from Salisbury (2017) and Fogel et al (2000). Sample of women eligible for pension increase: women whose husbands dies during the war, who applied for a pension before July 25, 1866, and who have at least one child under the age of 16 as of July 25, 1866. Women enter the sample on the date they become eligible for the pension. For the pension increase, this is July 25, 1866. The sample period ends at the end of 1872. A “failure” occurs when a widow files a pension application.

Figure 9: Share of Widows’ Pension Applicants using Pension Attorneys, by Region



Note. Microdata from Salisbury (2017) and Fogel et al (2000).