

The Effect of a Woman-Friendly Occupation on Employment: U.S. Postmasters Before World War II *

Sophie Li †

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Abstract

I examine the effect of a woman-friendly occupation on employment by exploring a unique historical setting – the postmaster occupation during the early twentieth-century United States. Unlike many occupations that established practices to prevent married women from entering, postmasters were open to married women and offered flexible work arrangements and equal pay. With a novel dataset on postmaster appointments and census linking, I show that postmasters attracted qualified women who were not gainfully employed previously. However, the postmaster occupation offered women few benefits beyond the appointed term. Taking advantage of the fact that postmasters were presidential appointees and were rarely re-appointed after the party of the president changed, I compare the 1940 outcomes of women appointed just before and after the 1933 presidential transition in a regression discontinuity (RD) design. The RD estimates suggest that women experienced a 26.7 percentage points reduction in gainful employment after finishing their postmaster term. The negative employment effect is unique to women and does not apply to men appointed under the same circumstances. In addition, I show that women postmasters were not more likely to be employed than their women neighbors who had never been postmasters, despite their work experience. The lack of benefits for women’s future employment is in part explained by state-level discrimination against married women working and the severity of the Great Depression.

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†Department of Economics, Boston University. Contact: ywl242@bu.edu.

1 Introduction

Historically, women’s employment outside the home in the United States was restricted by social norms, marriage bars, and other factors (Harris, 1978, Goldin, 1988). Despite substantial progress made during the past few decades, women’s employment today is still negatively affected by norms associated with motherhood (Kleven et al., 2019, Kleven, 2023). How can we improve women’s employment? Past research suggests that women-friendly occupations that provide flexibility in work arrangements could be the answer (Goldin and Katz, 2016, Mas and Pallais, 2017, Wiswall and Zafar, 2017).

This paper examines the effect of a specific woman-friendly occupation on employment by exploring a unique historical setting – the postmaster occupation during the early twentieth-century United States. Unlike many other occupations that established practices to prevent married women from entering, postmasters were open to married women. The occupation also provided a flexible and respectable work environment and equal pay, making it more woman-friendly than many other skilled occupations historically. Postmaster is also an ideal context to examine women’s historical employment because postmasters work for the federal government which helped to advance women’s economic and political rights during this period.

To study postmasters, I collect a novel dataset on postmaster appointments between 1920 and 1940. The archival dataset, “Record of Appointment of Postmasters, 1832–1971”, contains rich information about postmaster names, postmaster appointment dates, and post office locations (National Archives and Records Administration, 1977). Based on postmaster names and prefixes (such as “Miss”), I identify women postmasters. Based on postmaster appointment dates and post office locations, I link women postmasters to their 1920 and 1940 complete-count census records to obtain their pre-appointment and post-appointment characteristics.

With the linked data, I first show that postmaster jobs attracted qualified women who were not gainfully employed before. Specifically, women postmasters had 11.7 years of schooling on average, above the 70th percentile of the distribution. Almost half of the married women postmasters had a self-employed husband, suggesting that these women might be accumulating work experience by helping their husbands with the family business. Despite their qualifications, only 31.7 percent of women were gainfully employed in the labor market before being appointed postmaster, not significantly higher than the share of women gainfully employed in

the general female population. These descriptive statistics suggest many women would not have worked in the absence of postmaster jobs.

In the second part of the paper, I show that postmaster jobs offered few benefits to women's employment beyond the appointed term. Taking advantage of the fact that postmasters were presidential appointees and were rarely re-appointed after the party of the president changed (Kernell and McDonald, 1999, Blevins, 2021), I compare the 1940 labor market outcomes for women postmasters appointed just before and after the 1933 presidential transition in a regression discontinuity (RD) design. For women postmasters appointed just before the 1933 transition, they could not get reappointed and likely had lost their postmaster appointment by 1940, not through any fault of their job performance but simply because they belonged to the "wrong" political party. For women appointed just after the 1933 transition, on the other hand, they could possibly still get reappointed and continue to be postmasters beyond 1940.

The RD results suggest that women postmasters generally did not find new employment after finishing their postmaster term. In particular, women postmasters appointed just before the presidential transition were 26.7 percentage points less likely to be gainfully employed and reduced their labor supply by 17 weeks worked per year and 11.2 hours worked per week. I additionally show that the negative employment effect is unique to women and does not apply to men. For male postmasters appointed just before the presidential transition, they did not experience a reduction in their future employment. The comparison between women's and men's results suggests the negative employment effect among women is unlikely driven by selection issues among postmasters appointed just before the presidential transition.

Moreover, there is little evidence that women who had been postmasters benefited from their work experience when compared to women who had never been postmasters. In a difference-in-difference (DID) design, I compare women postmasters with their women neighbors who lived in the same town in 1920. Conditional on neighborhood and education fixed effects, women postmasters were not more likely to be employed in 1940 than their 1920 women neighbors.

The large reduction in employment among women postmasters is puzzling because these women were highly educated and had valuable work experience. Why did many women stop working after finishing their postmaster term? I present suggestive evidence showing that there was a lack of employment opportunities for women in general, and the lack of employment

opportunities could be explained by two reasons.

The first reason is state-level discrimination against married women working. In particular, twenty-six states introduced legislation that prohibited married women from working during the Great Depression because many believed married women did not need the additional income and were taking up employment opportunities for others (Gallup Organization, 1939, Shallcross, 1940).¹ I find that women in states with newly introduced marriage bars experienced larger adverse effects in their 1940 employment. The evidence is consistent with the hypothesis that a lack of employment opportunities for women leads to few long-term benefits of a woman-friendly occupation.

The second reason is the severity of the Great Depression. Using retail sales loss per capita between 1929 and 1933 as the measure for the severity of the Great Depression (Fishback et al., 2005), I find that women postmasters in counties with a more severe economic downturn experienced a larger reduction in employment after finishing their postmaster term, which is consistent with the hypothesis outlined above. In addition, the overlap of my sample period and the Great Depression allows me to examine the effect of the economic downturn on women's labor market outcomes, which is understudied compared to men's (Feigenbaum, 2015).

Finally, I rule out fertility and home production as the mechanism behind the findings. Women postmasters appointed just before and after the presidential transition had very similar household-level outcomes in 1940, such as the number of children and the number of servants in the household. This suggests that women appointed just before the transition did not have more children or spent more time in home production after finishing their postmaster term.

I advance the literature in three directions. I take advantage of the richness of the archival data to study historical women's work, which was often invisible either because the work was not considered "a gainful occupation" or because many women worked temporarily (Goldin, 1990, Folbre, 1995, Burnette, 2021).² By uncovering the group of women who worked as postmasters and played significant roles in the operation of US post offices, my paper adds to a growing literature that focuses on women's work during the historical period, such as women in agriculture (Withrow, 2021), women telephone operators (Feigenbaum and Gross, 2021), and

¹The state-level legislation is in addition to the existing barriers against married women working practiced by many occupations and industries before the 1930s.

²For example, the 1940 Census reports women were more likely to drop out of the labor force during the Depression, making it more difficult to study women who worked (United States Census Bureau, 1943).

women family workers (Chiswick and Robinson, 2021).

I highlight the importance of woman-friendly occupations in improving women's employment but acknowledge the limitations. Conventional wisdom suggests that a woman-friendly occupation is good for women's employment, but this is one of the few papers that provide empirical evidence on this topic (Goldin, 2014, Goldin and Katz, 2016, Mas and Pallais, 2020). On the one hand, the paper's findings are consistent with the literature, which shows that women might value flexibility in working hours and locations (Mas and Pallais, 2017, Wiswall and Zafar, 2017). On the other hand, the results suggest the longer-run benefits of a woman-friendly occupation are uncertain due to institutional barriers and macroeconomic conditions.

My paper is also closely related to the job loss literature because postmasters appointed before the presidential transition lost their jobs after finishing the appointed term. One key contribution is that I focus on women's response to job loss instead of on men's, which is relatively understudied. My findings are consistent with past work that shows women fare worse than men after job loss (Maxwell and D'Amico, 1986, Crossley et al., 1994, Kunze and Troske, 2015, Illing et al., 2021, Meekes and Hassink, 2022), but my estimate is larger than most estimates in the literature, possibly because women's employment was more constrained historically, and I am able to include in the analysis women who dropped out of the labor force thanks to the complete-count census data. I also contribute by using presidential transitions as a natural experiment, alleviating concerns about adverse selection of job losers (Jacobson et al., 1993).

The rest of the paper is organized as follows. Section 2 describes the data and census linking. Section 3 provides the historical background about postmasters and shows that it is empirically supported by the data. Section 4 shows postmaster jobs attracted qualified women who were not gainfully employed previously. Section 5 describes the regression discontinuity identification strategy. Section 6 and Section 7 present and discuss the results. Section 8 explains why women experienced a large reduction in employment after finishing their postmaster term. Section 9 concludes the paper.

2 Data and Census Linking

2.1 Presidential Transitions

A presidential transition occurs when the party of the president changes. There were three presidential transitions in the United States in the early twentieth century (see details in [Table 1](#)). The first presidential transition of the 20th Century occurred in 1913 when Woodrow Wilson, a Democrat, replaced William Taft, a Republican. Wilson's victory ended the Republicans' control of the presidency since McKinley won the 1896 presidential election. The second presidential transition occurred in 1921 when Warren Harding entered the office, right after Wilson finished his two terms as President. After that, Republicans remained in control of the presidency for more than a decade. The third presidential transition took place in 1933 as Franklin Roosevelt took office. Thanks to Roosevelt's popularity, the next presidential transition did not happen until the early 1950s.

2.2 Postmaster Appointments

I collect a novel dataset on postmaster appointments during the early twentieth century in the United States. This is part of a larger archival dataset, "Record of Appointment of Postmasters, 1832–1971", which contains more than a century-long list of postmaster appointments for all post offices that ever existed (National Archives and Records Administration, [1977](#), Ancestry, [2021](#)). The dataset provides rich information about postmaster appointments, including postmaster names, postmaster appointment dates, and post office locations. [Figure 1](#) shows a sample image of the archival dataset. The top of each appointment record indicates the name and location of the post offices. The table below displays postmaster names and appointment dates. [Figure 1](#) shows the postmaster appointment records for the Clermont post office in Lake County, Florida.

Based on post office locations, I infer the county and state of residence of postmasters; postmasters were selected locally as the Civil Service Commission required the candidates for postmasters to reside in the post office's delivery zone (United States Civil Service Commission, [1916](#)). Information about one's county and state of residence is not only valuable in census linking but is also useful to understanding the local labor market conditions.

Based on postmaster names, I infer the gender of postmasters. The first two postmasters ap-

pointed in the Clermont post office were most likely to be women, as indicated by predominantly female names such as “Isabelle” and “Florence,” as well as the prefixes “Miss” and “Mrs.” before their names. On the other hand, the last person appointed at the Clermont post office, Robert O. Seaver, was most likely to be a man.³ Using prefixes, I infer the women postmasters’ marital status. For example, the first person on the appointment record is “Miss Isabelle H. Boyd,” and I assume that Isabelle is a woman who had never been married at the time of the appointment. The second person on the same page is “Mrs. Florence M. Bowman,” and I assume Florence is a woman who was married or had been married at the time of the appointment. At the aggregate level, postmaster names allow me to calculate the share of women postmasters and ever-married women postmasters in each year.

Based on postmaster appointment dates, I infer the party affiliation of postmasters. Given that postmasters were presidential appointees, postmasters and the presidents who appointed them often shared the same party affiliation. The first postmaster appointed at the Clermont post office, Miss Isabelle H. Boyd, was appointed in 1931 under a Republican presidency, which means she was most likely a Republican. On the other hand, the second postmaster, Mrs. Florence M. Bowman, was appointed in 1935 under a Democratic presidency, indicating that she was most likely a Democrat.

In addition, I calculate the distance between initial appointment dates and presidential transition dates as well as the tenure length of each postmaster. This allows me to identify postmasters appointed just before and after a presidential transition and examine how the timing of the appointment affected their postmaster career. Postmaster appointment dates also allow me to identify whether the linked census records reflect the pre-appointment or post-appointment characteristics of the postmasters.

To my knowledge, this is one of the only two papers that utilize this newly digitized dataset (the other is Aneja and Xu, 2022). What differentiates my use of the data from theirs is that I focus on the gender of the postmaster rather than the race. There are more variations in the share of women appointed because very few postmasters were Black.

³I use the first name-based gender prediction method developed by Blevins and Mullen, 2015 to predict whether one is a woman. The prediction generated through the first name is consistent with the prediction generated through prefixes. See Section 12.3 of the Appendix for more details on Blevins and Mullen, 2015.

2.3 Postal Guide

In addition to postmaster appointment data, I also digitized one volume of the Postal Guide and merged it with the postmaster appointment data. The Postal Guide is an official government document that contains information about the size of each post office and the level of compensation each postmaster received (United States Government Printing Office, 1939). A sample image of the Postal Guide is available in [Figure A1](#). Since postmasters were paid at least \$1,100 a year, and sometimes even \$2,000 to \$3,000 a year, they were better paid than workers in other skilled occupations historically.

2.4 Census Linking

To obtain pre-appointment characteristics and post-appointment labor market outcomes of postmasters, I link postmasters to several complete count decennial census records (Ruggles et al., 2021). The linking conducted here is slightly different from others (such as Abramitzky et al., 2021) because the only available information for linking is postmaster names, postmaster appointment dates, and post office locations. Given limited information, I impose a conservative linking criterion requiring an exact and unique match of first name, last name, and county and state of residence. To overcome the barrier of linking women – who often change their names upon marriage – I require women’s prefixes and marital status to match. This means I can only link women who did not change their marital status between the time of appointment and when censuses were taken.⁴ Because postmasters from larger post offices and those appointed close to a census year might be linked more easily, I generate inverse probability weights based on post office size, postmaster appointment year, and characteristics of postmaster names to ensure the linked sample is representative of the original dataset (Bailey et al., 2020).⁵

Specifically, I link postmasters appointed between 1920 and 1940 to their 1920 and 1940 complete count census records. The average linking rates are 37.7 percent and 33.0 percent, respectively.⁶ The main reason I focus on postmasters appointed during this period is to have enough

⁴This is not a particular concern since 80 percent of women postmasters were married or had been married by the time of their appointment (referred to the “ever-married”).

⁵Variables related to the size of the post office are the classification of the post office (as shown in the Postal Guide) as well as the salary the postmaster received. Variables related to the characteristics of the names include the length of the first and last name, whether the name is common, whether the name has a middle name or initial, and whether the name contains odd letters such as “z”.

⁶I also linked postmasters to their 1930 complete count census, and the average linking rate is 33.4 percent.

observations for women because the share of women postmasters was much higher after the 1920s, as shown in [Table 1](#). I focus on postmasters appointed between 1920 and 1940 to ensure I have enough observations for women postmasters, especially in the linked data.

3 Historical Background About Postmasters

Postmasters are the managers of the local post offices, and each post office has one postmaster. Postmasters are in charge of selling stamps and renting out post office boxes, and they are experts in the money order business and the Postal Savings system.

Two important aspects of the postmaster occupation are central to this paper. Postmaster jobs were much more woman friendly than any other skilled occupations in the United States during the early twentieth century, making it a great case study to examine the effect of a woman-friendly occupation on women's labor market outcomes. Unfortunately, postmaster jobs were not permanent positions because postmasters were presidential appointees. This complicates the long-run effect of having a woman-friendly occupation. I further explain these two aspects below.

3.1 Postmaster as a Woman-Friendly Occupation

The postmaster occupation had several distinctive features that made it more woman friendly than any other skilled occupation. First, it allowed married women to enter the profession, which was extremely rare because many other occupations had marriage bars that prohibited married women from entering or fired women upon marriage ([Goldin, 1988](#), [Goldin, 2021](#)). A few reasons could be behind the lack of marriage bars in the postmaster occupation. For example, the Civil Service Commission ruled that wives of veterans should be prioritized in postmaster appointments, making it clear that married women were welcome in the profession ([United States Civil Service Commission, 1938](#)). In addition, candidates for postmasters were required to have a few years of business experience in similar types of employment, implying that only older women (who were more likely to be married) were eligible.

[Figure 2](#) supports the claim that the postmaster occupation did not have marriage bars. The figure shows the share of women and ever-married women in the postmaster occupation and

other skilled occupations between 1910 and 1940. Although the share of women in the postmaster occupation and the clerical occupation was similar, 80 percent of women postmasters had been married, while only 10 percent to 30 percent of women clerical workers had been married. Other woman-dominated occupations, such as teachers and stenographers, also had a very limited number of married women compared to postmasters.

The second woman-friendly feature of the postmaster job was its flexible work arrangements. Since most post offices were in rural areas and did not have fixed locations at the time, postmasters had autonomy in deciding the location of the post office that they oversaw. Oftentimes, postmasters established the post office either in the comfort of their own homes or inside a general merchandise store that their family was operating (Blevins, 2021). [Figure A2](#) in the Appendix provides a few examples of such flexible work arrangements. Moreover, this feature allowed women postmasters to work in clean and respectable environments, which distinguished them from other women working in factories and mills. Working as a postmaster was socially acceptable since it was a “clean and honorable” occupation that let women be in close contact with the home and family (Cortelyou, 1906).

In addition, the postmaster occupation provided equal pay to men and women. The President of the National Federation of Postal Employees stated that “there is no discrimination against her in the matter of wages. We, as an organization, will resist any such discrimination, should it be made” (The National Federation of Postal Employees, 1919). The equal pay was a result of the postmaster’s salary being determined at the post office level and not being adjusted based on the characteristics of the postmaster.⁷ The salary amount depended on post office revenue, which was jointly determined by mail volume and postmaster performance.⁸ Postmaster was an extremely well-paid job for women; they were paid at least \$1,100 per year, sometimes even \$2,000 to \$3,000 per year (as shown in [Figure A2](#)), which was a much higher level of compensation than the average wages earned by women with high school degrees, which was only around \$650 in 1940.⁹

Lastly, the skills required for the postmaster position matched quite well with skills required

⁷Although there was no explicit wage penalty against women, women were often appointed to smaller post offices that paid less (see [Figure A4](#) in the Appendix for more details).

⁸The postmaster’s salary was a percent of the quarterly sales: “40% for sales under \$100, 33.3% for sales from \$100 to \$400, 30% for \$400 to \$2,400, 12.5% for sales over \$2,400” (Prechtel-Kluskins, 2007).

⁹Author’s calculation based on the 1940 complete count census.

at home, making women ideal candidates for postmasters. For example, postmasters were required to have decent arithmetic skills to keep track of post office sales as well as to balance and close the statements. These skills were taught to many women through bookkeeping and accounting courses in school because they helped women to become more efficient homemakers (Rury, 1991, Nash, 2005).

3.2 Postmasters as Presidential Appointees

Postmasters were presidential appointees who worked for the federal government. During the nineteenth and early twentieth centuries, postmasters played significant roles under the spoils system to help their party win elections, including inserting resident's mail with campaign materials and endearing "themselves to members of the House of Representatives through their regular, personal contact with a remote segment of the electorate" (Kernell and McDonald, 1999). In return, presidents gave out postmaster jobs to party loyalists after winning the election. As valuable political assets, postmasters became the largest group of political appointees (John, 1988). Postmasters alone accounted for 76.6 percent of presidential appointments between 1819 and 1917, and the number of political appointments among postmasters far exceeded the number of appointments from other departments in the federal government (Blevins, 2021). The politics involved in postmaster appointments was never a secret, as clearly stated in Postmaster General James Farley's memoir. Farley, who served under President Franklin Roosevelt, noted that his selection of postmasters had to be "loyal Democrats who at the same time will have the ability to serve in their positions to the credit of their party and their country" (Farley, 1938).

When civil service reforms started to roll out in the late nineteenth century, candidates for postmasters were required to pass civil service exams and score among the top three to become eligible. The exam tested the candidate's ability to manage the post office, such as their arithmetic and writing skills. For example, the candidate was asked to make an itemized list of money order transactions over the past month, as well as to balance and close the statement based on fees charged in each money order (United States Civil Service Commission, 1916). Candidates applying for postmastership in larger post offices additionally had to demonstrate "business training, experience, and fitness" and "the ability in meeting and dealing satisfactorily with the public" (United States Civil Service Commission, 1922).¹⁰

¹⁰Section 12.1 of the Appendix explains the eligibility requirements for postmaster candidates and the content of

Despite efforts to select the best candidate for the postmaster job through civil service exams, postmasters remained as presidential appointees for many decades after civil service reform because the president was free to choose one of the top three scorers of the civil service exam and would only fill the position if someone from his political party was among the top three scorers.¹¹ A second exam was often held if the president failed to find a person from his own party (United States Government Printing Office, 1935). Since the president might not be familiar with the party affiliations of job seekers, the Postmaster General or local congressmen often would help pick the postmasters that belong to the president's political party (Fowler, 1945, Kernell and McDonald, 1999).

Given the political nature of postmasters, postmaster appointments only lasted four years, and re-appointments were extremely rare after a presidential transition when the party of the president changed. I demonstrate that my data support this historical account in [Figure 3](#). The figure plots the number of new postmasters coming into the office each year and marks every presidential transition that took place during the early twentieth century with a vertical dashed line. It shows that the number of new postmasters coming into office increased drastically in the four years after each presidential transition but remained relatively stable in other years. This indicates postmasters appointed before a presidential transition lost their jobs and were replaced soon after by people from the opposite political party.¹² Note that postmasters were not immediately "fired" after a presidential transition; instead, they could stay on the job to finish their four-year term, and most of them had a financial incentive to stay because it was an extremely well-paid occupation.

4 Predetermined Characteristics of Women Postmasters

I compare the predetermined characteristics of women postmasters appointed from 1921 to 1939 with the general female population. The sample of postmasters is the linked data between the civil service exams in more detail.

¹¹12,000 postmasters from larger post offices remained as presidential appointees until 1970 (Patch, 1948). This is the sample of postmasters I use in the analysis. Postmasters from smaller post offices stopped being presidential appointees between 1909 and 1913 and were not included in the sample. See more explanation in [Section 12.2](#) of the Appendix.

¹²Blevins, 2021 shows the same pattern existed for postmasters appointed during the late nineteenth century, as shown in [Figure A3](#) in the Appendix. Mastrorocco and Teso, 2023 establishes similar stylized facts for other federal employees not employed in the Post Office between 1817 and 1905.

postmaster appointments and the 1920 and 1940 complete-count censuses, and the sample of the general female population includes women aged between 18 and 65 in the 1920 and 1940 complete-count censuses.¹³

4.1 Women Postmasters Were Predominantly White, Native Born, and Rural

Women postmasters were selected from predominantly White, native born, and rural populations. Based on results from [Table 2](#), 99 percent of women postmasters were White, and 98 percent of them were native born. This is not surprising since postmasters were required to be citizens. While 57 percent of women lived in urban areas in 1920, only 12 percent of women postmasters did. This not only reflects that the majority of post offices were in rural areas but also confirms women were more likely to be appointed to rural post offices that were paid less (see [Figure A4](#) in the Appendix for more details). Despite women postmasters' over-representation in rural areas, they were slightly less likely to be from farm households, which might speak to their high socioeconomic background.

4.2 Women Postmasters Were Qualified but Not Employed Previously

Women postmasters were highly qualified. First, women postmasters had 11.7 years of schooling on average. This was much higher than the average level of educational attainment of the general female population, which was only 9 years (see Columns 1 and 2 of [Table 2](#)). Women postmasters were also relatively older when appointed, which might imply that they had some working experience since many educated women participated in the labor market briefly before marriage. In addition, a closer look at married women postmasters reveals that they were positively selected based on business experience since 48.7 percent of them had a self-employed husband (see Columns 3 and 4 of [Table 2](#)). These women might have accumulated work experience by helping with their husband's work.

Despite their qualifications, most women postmasters were not gainfully employed before being appointed postmasters. Only 31.7 percent of women postmasters were gainfully employed in 1920, a figure not much higher than the share of women gainfully employed in the

¹³The 1940 census data are needed because certain predetermined characteristics, such as years of education, are only available for 1940.

general population (25.6 percent).¹⁴ In addition, only 3.3 percent of women postmasters reported being self-employed.

Why were women postmasters not gainfully employed previously? I briefly discuss two reasons. One is that most women were married and thus were unlikely to be employed due to marriage bars. The other is that women postmasters were selected positively on socioeconomic background and thus were unlikely to work outside the household due to stigma.

4.2.1 Lack of Employment Due to Marital Status

The low level of gainful employment among future women postmasters could be explained by their marital status. Since 70.8 percent of women postmasters were married and many occupations and industries established marriage bars that prevented married women from working, most women postmasters had limited labor market prospects if it were not for the woman-friendly postmaster occupation.

This argument is further supported by the fact that only 7.5 percent of married women in the general population were gainfully employed (Column 3 of [Table 2](#)), and the share of married women postmasters who were gainfully employed was much lower than the share of women postmasters who were gainfully employed (15.2 as opposed to 31.7 percent, see the comparison in [Table 2](#)).

4.2.2 Lack of Employment Due to Socioeconomic Background

The low level of gainful employment could also be explained by women's socioeconomic status. Given that most working women worked in "unclean" conditions (such as in factories and mills), it was not socially acceptable for women from higher socioeconomic backgrounds to work outside the household ([Goldin, 2021](#)).

In [Figure A5](#), I illustrate that future women postmasters were selected positively by their socioeconomic backgrounds. Following procedures outlined in [Olivetti and Paserman, 2015](#), I

¹⁴Gainful employment is defined as having a gainful occupation that does not include working as a housewife, helping with chores at home, or being a student. Census enumerators were instructed to mark down a gainful occupation if the occupation was income-generating. For example, a housekeeper was not considered a gainful occupation if the woman worked in her home as the housekeeper but was considered a gainful occupation if the woman worked for other households and get paid for the housework done. See more details here: <https://www.census.gov/library/publications/1929/dec/monograph-9.html>

impute women postmasters' socioeconomic backgrounds with their first names.¹⁵ The results suggest candidates for women postmasters were selected overwhelmingly from above the median level of family socioeconomic background. As a result, these women were unlikely to have previously worked outside the household. The postmaster occupation provided women with a clean and respectable working environment and made it acceptable for women to work.

4.3 Postmaster Jobs Improved Women's Employment Outcomes

Based on the descriptive statistics, many women would not have worked in the absence of postmaster jobs despite being highly qualified. As a result, postmaster jobs likely have improved women's employment outcomes.

I present additional evidence that postmaster jobs increased women's employment by 14.1 percentage points to 23.9 percentage points in [Section 12.4](#) of the Appendix. The estimates are generated by a regression discontinuity design that compares women postmasters appointed just before and after the census date to estimate the difference in gainful employment reported in the census. See more details in the Appendix.

5 Identification: Regression Discontinuity

I examine whether women postmasters benefited from the work experience beyond the appointed term. Taking advantage of the fact that postmasters were presidential appointees and were rarely re-appointed after the party of the president changed, I use an RD design to compare the 1940 outcomes for postmasters appointed just before and after the 1933 presidential transition, when Franklin Roosevelt (a Democrat) replaced Herbert Hoover (a Republican).

Postmasters appointed before the 1933 presidential transition were appointed by Republican presidents and were rarely reappointed after Franklin Roosevelt entered office. As a result, these postmasters stopped being postmasters once they have finished their four-year term. In contrast, postmasters appointed after the 1933 presidential transition could be reappointed and

¹⁵The sample used for the imputation includes girls born between 1905 and 1915 in the 1920 complete-count census. The first step is to standardize their first names using the algorithm developed by Abramitzky et al., [2021](#). The second step is to calculate the average rank of the father's occupational score, grouped by the daughter's first name. The average rank is used as the measurement of women's socioeconomic background.

continued to be postmasters beyond 1940. The RD design estimates the change in the probability of employment for women postmasters who finished their appointed term.

Formally, the RD treatment effect is expressed as follows:

$$E[Y_i(1) - Y_i(0)|X_i = X_0],$$

where Y_i is the economic outcome for individual i in 1940, X_0 is the day that the presidential transition took place (March 4, 1933), and X_i is the initial appointment date. The running variable is the distance between the initial appointment date and the day that the presidential transition took place. I also include individual control variables in the specification, such as age, age square, marital status, farm and urban status, years of education, and whether one migrated during the past 5 years.¹⁶

The advantage of the RD design is that it provides great convenience in census linking. Because labor market outcomes of postmasters appointed before and after the 1933 presidential transition are both observed in the 1940 census, RD only requires linking postmaster appointment data to the 1940 census, which is much more convenient than linking postmaster appointment data to multiple censuses as would be necessary for other identification strategies such as the difference-in-difference (DID).

5.1 Validity of RD

Despite the fact that women postmasters appointed just before and after the presidential transition belonged to different political parties, I show in [Figure 4](#) and [Table 3](#) that many observed characteristics of the two groups were similar. The goal is to illustrate that women postmasters appointed just before and after the presidential transition were comparable in many dimensions, and as a result, the comparison yields a reasonable estimate of the change in the probability of employment for women postmasters who finished their appointed term. On a different note, [Section 6.1.2](#) addresses the issue of differential selection on unobserved characteristics.

We might be worried that Franklin Roosevelt – the Democratic President who came into

¹⁶The RD design outlined here is a sharp RD design. Given that postmasters appointed by one party were extremely unlikely to be appointed by the opposite party after the presidential transition, sharp RD is the preferred identification. To be more comprehensive, I additionally discuss fuzzy RD design in [Section 12.5](#) of the Appendix.

office after the 1933 presidential transition – appointed postmasters in a different manner than his Republican predecessors, possibly due to political reasons. To address this issue, I examine whether county-level Republican vote share in the previous election changed discontinuously at the 1933 presidential transition date. Reassuringly, [Figure 4](#) shows that there is no discontinuity in Republican vote share in 1928, and the RD estimate is small and not statistically significant. The result suggests that women postmasters appointed just after the transition were not more likely to be from Republican counties when compared to women appointed just before.

I also examine whether women postmasters appointed just before and after the 1933 presidential transition were selected differently based on the severity of the Great Depression. We might be worried that President Roosevelt had appointed women postmasters in counties that suffered a severe economic downturn more swiftly since they were in more desperate need of employment opportunities. However, [Figure 4](#) and [Table 3](#) show little evidence that women postmasters appointed across the transition date were selected differently on county-level retail sales loss per capita between 1929 and 1933 (a measurement of the severity of the Great Depression). The result suggests that women postmasters appointed just after the transition were not more likely to be from counties that suffered a more severe economic downturn.

In addition, it is important to establish that the probability of linking a woman postmaster to the census does not change discontinuously at the presidential transition date to ensure that the discontinuities in RD results are not due to census linking issues (e.g., women appointed just before the presidential transition were more likely to migrate than women appointed just after, and thus less likely to be linked to the census). Toward this goal, I show that the probability of linking a woman postmaster to the 1920 and the 1940 census does not change discontinuously at the presidential transition date. The lack of discontinuity in linking rates provides more credibility to the RD results.

Last, I show that many other individual-level characteristics of women appointed just before and after the 1933 presidential transition are balanced. For example, women postmasters appointed just before and after the transition were similar in socioeconomic background, as measured by the average occupational score rank of their fathers. These two groups of women were also similar in years of education accomplished, age at postmaster appointment, native-born, urban, farm, marital, employment, and homeownership status, as well as the number of children in the household. Overall, the results suggest women postmasters appointed just before

and after the presidential transition were similar to each other in many dimensions.

5.2 Robustness Checks of Baseline RD

I implement several robustness checks to ensure the baseline RD results are robust to alternative specifications, such as robust bias-corrected standard errors, a different kernel function, a fixed bandwidth choice of 1,000 days, county-level controls, and age group fixed effects. In addition, I implement a placebo test by setting the presidential transition date to March 4th in a different year, and I use a donut RD design that excludes those appointed between the election and presidential transition dates (Barreca et al., 2011). The goal of a donut RD is to make sure that the baseline RD results are not driven by postmasters who anticipated the upcoming presidential transition and might have different incentives to take the job.

6 RD Results on Women’s Employment and Labor Supply

In [Figure 5](#) and [Table 4](#), I present evidence showing that women experienced a large reduction in employment and labor supply after finishing their postmaster term. The figure plots women’s labor market outcomes against the standardized distance between their initial appointment date and the 1933 presidential transition date (March 4, 1933), and the table reports RD estimates based on the identification described in [Section 5](#).

6.1 Women Experienced a Substantial Reduction in Employment

The main outcome variable I am interested in is whether one was gainfully employed in 1940. Being gainfully employed is defined as having a gainful occupation in which one works for pay at least some time and does not include working as a housewife. This is the preferred measure for women’s employment, which was often part-time and temporary because it captures women’s work more comprehensively.^{17 18}

As shown in [Figure 5](#), there is a large discontinuity in women’s gainful employment at the

¹⁷For example, 4.1 percent of women with gainful occupations were not considered “employed” in 1940 in my sample, possibly because being “employed” requires the person to work for pay in a specific reference period. Among gainfully employed women who were not considered as “employed,” the majority of them reported positive working hours in 1939.

¹⁸Despite differences in the definitions, changing the outcome variable to “employed” does not change the results.

presidential transition date. This suggests that many women postmasters appointed just before the transition stopped being postmasters and failed to find new employment opportunities by 1940. Note that these women had the option to finish their four-year postmaster term after the presidential transition, which means that they would be prepared to find new employment opportunities while still in the postmaster job. However, women still experienced a substantial loss of employment (a 26.7 percentage points reduction as shown in [Table 4](#)).

6.1.1 Is the Result Due to Women Being Family Workers?

One reason women experienced a large reduction in employment after finishing their postmaster term is that they transitioned to unpaid family workers. Since unpaid family workers were not well-documented historically, we might mistake these women as not working and recover a large negative effect on employment.

Fortunately, the 1940 census instructions explicitly stated that unpaid family workers, such as women helping with family businesses, should be documented.¹⁹ Using the variable from the 1940 census, I examine whether women who lost their postmaster jobs were more likely to be working as family workers. [Figure 5](#) shows that very few women were counted as family workers based on the census definition, and women who lost their postmaster jobs were not more likely to transition from working in the formal labor market to working as family workers (see the RD estimate from [Table 4](#)).

Women who worked primarily within the family might still be undercounted despite efforts to document unpaid family workers in the 1940 census. Alternatively, I impute family workers based on the procedures outlined in Chiswick and Robinson, [2021](#). The imputed variable counts all family members in a household where the head is self-employed as family workers, because many merchant and craft business owners rely on family members as laborers. As shown in [Figure 5](#), the imputation increases the share of women family workers from below 5 percent to around 20 percent, which suggests that women family workers might be underreported. However, there is little evidence that women postmasters who lost their jobs were more likely to become family workers, conditional on the imputation.

¹⁹See more details in the 1940 census instructions (item 539): unpaid family workers included those who worked "in a shop or store from which the family obtained its support, or on other work that contributed to the family income (not including home housework or incidental chores)." <https://www.census.gov/programs-surveys/decennial-census/technical-documentation/questionnaires/1940/1940-instructions.html>

6.1.2 Is the Result Due to Women Being Negatively Selected?

Another reason why women experienced a large reduction in employment could be that these women were negatively selected. Although [Figure 4](#) and [Table 3](#) show that the observed characteristics of women postmasters appointed just before and after the presidential transition are balanced, postmasters appointed just before the presidential transition could be differentially selected on unobserved characteristics. If so, the comparison between women postmasters appointed by a lame-duck Republican president and those appointed by a popular Democratic president might exaggerate the adverse effect on employment.

To address the potential adverse selection of postmasters appointed just before the presidential transition, I benchmark the RD estimates of women against those of men. Since both men and women postmasters appointed before the presidential transition were selected by the same president, differencing out the RD estimates between women and men should result in a less biased estimate.²⁰ For example, the density test shows there were more women appointed immediately after the presidential transition, causing concerns about selection ([McCrary, 2008](#), [M. Cattaneo et al., 2018](#)). Taking the difference between men's and women's RD estimates attenuates the bias because the bunching exists for both men and women postmasters (see [Figure A6](#)).

The RD results for men are shown in [Figure A7](#). The figure shows that there is no discontinuity in gainful employment among male postmasters, which suggests that male (Republican) postmasters appointed just before the presidential transition did not experience a reduction in employment despite the fact that they might have been negatively selected. Results from Panel C of [Table 4](#) show that the differences between RD estimates among women and men are large and statistically significant, indicating that women postmasters who lost their postmaster jobs were much worse off than men appointed by the same president. I conclude that the negative effect on women's employment is still substantial even after accounting for the selection issue.

As an alternative to gender differences in RD estimates, I implement a DID design that compares the labor market outcomes of men and women postmasters appointed before the 1933 presidential transition. I show that the DID estimate (33.5 percentage points) is similar to the gender differences in RD estimates (25.2 percentage points), which further strengthens the argument that, conditional on selection, women experienced a large reduction in employment.

²⁰This is similar to the "difference in discontinuity" estimates used to address selection bias as shown in [Grembi et al., 2016](#). The difference here is a gender difference instead of a cross-sectional difference.

[Section 12.7](#) of the Appendix outlines the details about the DID estimates.

6.2 Women Did Not Become Self-Employed

Another outcome variable of interest is whether one was self-employed in 1940. Since skill sets required in the postmaster occupation were similar to those required in self-employment opportunities (such as managers and bookkeepers), self-employment was an attractive alternative option for women.²¹ However, [Figure 5](#) and [Table 4](#) suggest very few women were self-employed and women postmasters were not more likely to become self-employed after finishing their postmaster term. This might be one reason the reduction in gainful employment among women is so large.

6.3 Women Experienced a Substantial Reduction in Labor Supply

In addition, I show that the decrease in women's labor supply associated with the decrease in employment is substantial. Women postmasters appointed just before the presidential transition experienced a reduction in labor supply by 17.0 weeks per year and 11.2 hours per week. The large decrease in labor supply is consistent with findings from past research that suggest women's labor supply was much more elastic than men's ([Goldin, 2006](#)).

6.4 Baseline RD Results Are Robust

I show that the baseline RD results shown above are robust to many alternative specifications, including robust bias-corrected standard errors, a different kernel function, a fixed bandwidth choice of 1,000 days, county-level controls, and age-group fixed effects.²² Although it is unlikely that the baseline RD results would change with alternative specifications because of the large discontinuity in gainful employment shown in [Figure 5](#), I present the robustness checks in [Table 5](#) and confirm that the baseline RD results still hold.

Additionally, I implement a placebo test by setting March 4, 1926, as the pseudo-presidential

²¹Because past business experience was required and appreciated at the postmaster jobs, many postmasters were actually self-employed before being appointed. They often worked in general merchandise stores or as salesmen or saleswomen ([Blevins, 2021](#)).

²²County-level controls include the share of high school/college graduates, the share of women, the share of Whites, the share of the working population by gender, and population density. Age groups are defined as below 30, between 30 and 40 ... between 60 and 70, and above 70 years old.

transition date. I estimate the RD results using a new running variable based on the pseudo-date. Because of the null results recovered in the placebo test, I conclude that the large employment loss among women is specific to those appointed just before the 1933 presidential transition date.

I also implement a donut RD design that excludes postmasters appointed between the 1932 election date (November 8, 1932) and the 1933 presidential transition date (March 4, 1933). Postmasters appointed after the 1932 election date would have anticipated the upcoming presidential transition and might have had different incentives to take the job. The donut RD examines whether the baseline RD results are driven by these observations. As shown in Panel F of [Table 5](#), the donut RD estimates on gainful employment and labor supply are only slightly smaller than the baseline RD results, but they have a similar level of statistical significance. The donut RD results provide further support for the argument that women postmasters experienced substantial employment loss after completing their postmaster term.

6.5 Heterogeneous Effects by Marital Status and Tenure Length

I further examine the heterogeneous effects on women postmasters in [Section 12.6](#) of the Appendix. One helpful aspect of examining heterogeneous effects is to shed light on the reasons behind the large reduction in employment on women. For example, I show that single women would be more likely to be employed again than married women, possibly due to marriage bars in hiring and retaining married women workers, which provides additional support to the argument that discrimination against married women adversely affected women's employment as outlined in [Section 8](#).

7 Discussion: Did Women Benefit Beyond the Postmaster Term?

Did women postmasters benefit from the woman-friendly occupation beyond their postmaster term? I show that the answer is likely negative by comparing women postmasters with women who had never been postmasters. The combined results suggest the long-run benefit of a woman-friendly occupation is limited.

7.1 Comparison Between Women Postmasters and Their Neighbors

The RD design compares women who finished their postmaster terms with women who were still postmasters, which recovers a large negative effect. That said, this does not necessarily mean that women who had been postmasters did not benefit from the work experience. Instead, they might have better labor market outcomes than women who never had been postmasters, thanks to their postmaster appointments in the past. To test this hypothesis, I compare women postmasters with their women neighbors, who could be identified from the complete-count census data as explained in Logan and Parman, 2017.²³ Comparison within the same neighborhood not only controls for place of residence but also addresses sorting based on unobserved characteristics that might be place specific.

Using the 1920-1940 linked sample of native-born White people aged between 18 and 65 who lived in neighborhoods that had at least one postmaster (Price, Buckles, Van Leeuwen, et al., 2019, Price, Buckles, Haws, et al., 2023),²⁴ I implement the following DID regression:

$$Y_{ihet} = \alpha_0 + \alpha_1 PM_i + \alpha_2 Post_t + \alpha_3 PM_i \times Post_t + \gamma_h + \gamma_e + X'_{ihet} \Theta + \epsilon_{ihet}$$

Y_{ihet} is the outcome variable for postmaster i who had education level e and lived in neighborhood h in year t . t only takes on two values – 1920 and 1940. PM_i is a dummy variable that equals 1 if the person had been a postmaster. $Post_t$ is a dummy variable that equals 1 if the year is 1940. I include neighborhood fixed effects γ_h and education fixed effects γ_e , which allows me to compare people in the same neighborhood and people with the same level of education. I also added individual-level control variables X_{ihet} , including age, age square, marital status, farm, and urban status.

I run the regression separately by gender. Figure A8 shows the DID estimates for women are not statistically significant from 0, which suggests that women postmasters appointed before the 1933 transition were not more likely to be gainfully employed than their 1920 neighbors in 1940.²⁵ In contrast, women postmasters appointed after the 1933 transition were more likely

²³Because census enumerators traveled on foot to collect information about households, respondents documented on the same page of the microfilm are categorized as neighbors.

²⁴At the time of writing, the Census Tree data is the only dataset that provides linked sample of women between 1920 and 1940. I restrict the sample to user-made links (referred to as “family tree” links in Price, Buckles, Van Leeuwen, et al., 2019 and Price, Buckles, Haws, et al., 2023)

²⁵Note that the estimates are less precise when using the sample of women postmasters appointed 400 to 1,000

to be gainfully employed than their 1920 neighbors in 1940 by 60 to 70 percentage points. The combined results indicate that there is little evidence that women postmasters benefited from their work experience beyond their postmaster term and became more employable than their neighbors with similar levels of education.

8 Mechanisms Behind the Lack of Long-Term Benefits

It is puzzling many women simply stopped working after their postmaster appointment because these women were highly qualified and had valuable work experience. I present suggestive evidence showing that the lack of long-term benefits of a woman-friendly occupation was due to limited labor market opportunities for women, which can be explained by state-level discrimination against married women working and the severity of the Great Depression. In contrast, the results cannot be explained by women's political affiliations or women's preferences for fertility and home production.

8.1 State-Level Discrimination Against Married Women

Marriage bars had a long history in the U.S. labor market and existed in different forms in various occupations and industries. The discriminatory practice persisted due to the belief that women's sphere was the family and working women could not be efficient and caring home-makers (Harris, 1978, Rury, 1991). Marriage bars established by the government, however, were relatively rare until the Great Depression, during which the federal government passed Section 213 of the Economy Act that asked "married persons" to resign if both the husband and the wife were working for the federal government, and the majority of those forced to resign were women because women earned less than men (Cook, 1936). The establishment of the clause was fueled by sentiment against women – and especially married women – working given the lack of employment opportunities during an economic downturn.

The federal legislation set a precedent for the state to freely discriminate against married women, and twenty-six states quickly followed suit to introduce legislation that restricted married women's employment during the Great Depression (Shallcross, 1940). Although most state legislative actions did not pass, blatant discrimination against married women reinforced the ex-days before the presidential transition date, possibly due to the low number of postmasters appointed in that range.

isting social norms that prevent women from working outside their homes. According to Shallcross, 1940, married women workers “may eventually find it impossible to get a job even though no laws have been passed specifically prohibiting her employment” if sentiment against women working continued to grow. A Gallup poll found the majority of the respondents supported state legislatures’ desire to pass laws restricting married women’s rights to work (Gallup Organization, 1939), even though a government survey showed most married women were seeking employment due to economic necessity (Brown, 1929).

To examine whether state-level discrimination contributed to the negative employment effect, I estimate the RD treatment effects by states that had and did not have legislation against married women working. [Figure 6](#) displays a map of the states that introduced legislation prohibiting married women from working during the Great Depression (Shallcross, 1940), and Panel A and B of [Table 6](#) display the RD results.

Women living in states with newly introduced marriage bars were 39.3 percentage points less likely to be gainfully employed in 1940, and they decreased their labor supply by 22.6 weeks worked per year and 15.2 hours per week. The estimates are much larger than the baseline RD estimates shown in [Table 4](#), suggesting that women in areas with state-level marriage bars had worse employment outcomes. The results for women in areas without such marriage bars are the opposite, suggesting that women were only 4.9 percentage points less likely to be gainfully employed and the estimate is not statistically significant.

Overall, the findings suggest that state-level discrimination against married women led to fewer employment opportunities for women and could explain why many women stopped working after their postmaster appointment.

8.2 The Severity of the Great Depression

Women living in counties that experienced a more severe economic downturn during the Great Depression might find it more challenging to obtain new jobs, resulting in the large employment losses shown in the RD results. In particular, I estimate the RD treatment effects by county-level severity of the Great Depression, which is measured by changes in retail sales per capita between 1929 and 1933 (Fishback et al., 2005, Feigenbaum, 2015). Panel C and D of [Table 6](#) show RD results for postmasters living in counties that experienced above and below the

median retail sales loss per capita respectively.

Women postmasters living in areas that experienced a more severe economic downturn experienced a reduction of 40.8 percentage points in the probability of gainful employment and decreased their labor supply by 23.6 weeks per year after finishing their postmaster term. In contrast, the RD estimates are small and insignificant for women postmasters living in counties that experienced a less severe economic downturn. The results suggest that women in areas with a more severe economic downturn suffered larger employment losses.

Given that the severity of the Great Depression can explain women's loss of employment, we might be interested in recovering counterfactual RD estimates based on different levels of severity of the Great Depression. The goal of the exercise is to understand the extent to which women's employment loss was driven by the intensity of an economic downturn. I construct RD estimates assuming everyone in the sample experienced sales loss per capita at the 10th, 25th, 50th, 75th, and 90th percentile. The results are shown in [Table A5](#), and the details on how to construct counterfactual estimates are explained in [Section 12.8](#) of the Appendix.

Assuming every woman postmaster lived in a county with sales loss per capita between 1929 and 1933 at the 10th percentile (which is around \$70 in 1967 dollars), the RD estimate suggests that women were 18.9 percentage points less likely to be gainfully employed after finishing their postmaster term. The estimate is not only smaller than the baseline estimate shown in [Table 4](#) but also becomes statistically insignificant at the 5 percent level. This suggests women's loss of employment would be smaller if not due to the economic downturn.

On the other hand, if we assume every woman postmaster lived in a county with sales loss per capita between 1929 and 1933 at higher levels, such as the 50th, 75th and 90th percentile, the RD estimate becomes larger and more statistically significant, reaching between 24.2 percentage points to 38.1 percentage points. The RD estimates on labor supply exhibit a similar pattern, suggesting that the decrease in labor supply associated with the decrease in employment is positively correlated with the severity of the Great Depression.

The combined results are consistent with the hypothesis that the severity of the Great Depression resulted in fewer employment opportunities for women and, in turn, led to a lack of long-term benefits for women's future employment.

8.3 Political Affiliation

Since women postmasters appointed before the presidential transition were Republicans, it might not be possible for them to find politically connected jobs or government jobs after a Democratic president had come into office, making political affiliation a plausible reason why many women stopped working after their postmaster appointment. If true, the same reasoning should apply to male (Republican) postmasters appointed before the presidential transition who would have experienced a reduction in employment.

However, I have shown that male postmasters appointed before the presidential transition did not experience any substantial loss of employment in 1940 in [Section 6.1.2](#), despite the fact that they were Republicans looking for employment opportunities under a Democratic presidency. Specifically, the decrease in the probability of gainful employment is only 1.4 percentage points for men and the estimate is not statistically significant. The contrast between women's and men's results suggests that the large employment loss women experienced was gender specific but not party specific, which invalidates political affiliation as the main reason women experienced a large reduction in employment after finishing their postmaster term.

Additional comparison on self-employment further supports the argument that women suffered large employment losses for reasons unrelated to politics. Women postmasters were not more likely to become self-employed after finishing their postmaster term, while men were 34.8 percentage points more likely to become self-employed. A closer look at the occupation codes in the 1940 complete count census reveals that male postmasters were more likely to take on "managers" and "salesmen" as self-employed occupations. The difference in self-employment suggests women could not find new jobs due to a lack of alternative employment opportunities that allowed women to enter.

As shown in Panel C of [Table 4](#) and [Section 12.7](#), the gender differences in gainful employment, labor supply, and self-employment are statistically significant, suggesting that women fared worse than men after finishing their postmaster term even conditional on the same political affiliation. As a result, I rule out political affiliation as the primary factor that explains the large reduction in employment among women.

8.4 Fertility, Parenthood and Other Types of Home Production

Women might choose to have more children or take more responsibilities in home production after finishing their postmaster term, resulting in a reduction in future employment. The hypothesis is supported by research using contemporaneous data, which shows fertility and parenthood can explain some of the gender differences in job loss because women often take on flexible jobs that pay less to accommodate being a parent (Kunze and Troske, 2015, Illing et al., 2021, Meekes and Hassink, 2022). That said, I show that fertility and other types of home production cannot explain the significant reduction in women's employment in this case.

Using the same RD strategy as explained in [Section 5](#), I examine whether fertility and parenthood drove women out of the labor force. I compare the number of children and the number of children under 5 years old among women appointed just before and after the presidential transition. The RD estimates should be positive and significant if women were trading off having more children and finding a new job after their postmaster appointment. Perhaps surprisingly, I do not find any significant effect, as shown by Columns 1 and 2 of [Table A6](#). The insignificant RD estimates suggest women postmasters who finished their postmaster appointment were not behaving differently than those who continued to be postmasters, indicating that fertility or parenthood was not the reason why many women stopped working.

Given that women postmasters were relatively older when appointed and might have stopped having children regardless of reappointment as postmasters, I also examine other outcome variables related to home production. I use the number of grandchildren, parents and parents-in-law, and servants in the household as novel proxies for the amount of grandchild care, elderly care, and housework women perform. For example, if woman postmasters chose to take on more responsibilities in elderly care (housework) after the postmaster appointment, we should expect a positive (negative) and significant RD estimate on the number of parents and parents-in-law (number of servants) in the household. As shown in Columns 3, 4 and 5 of [Table A6](#), I do not find any effect on these home production outcomes either.

9 Conclusion

Although conventional wisdom suggests woman- and family-friendly occupations benefit women's employment, the empirical evidence on the short-term and long-term benefits of such occupations is rare. My paper fills the gap in the literature by exploring a unique historical setting – postmasters during the early twentieth-century United States.

On the one hand, I show that a woman-friendly occupation likely has improved women's employment in the short run since many became gainfully employed thanks to the postmaster job. Although postmaster is a specific occupation, the results have external validity for many other skilled women during the historical period, most of whom were not working due to marriage bars and social norms against women working outside the home. The results suggest an increasing supply of women-friendly occupations would have improved many women's employment outcomes.

On the other hand, a woman-friendly occupation provided few benefits to women's future employment if the occupation was not permanent or involved uncertain tenure. My findings highlight the limitations of a woman-friendly occupation in an environment where women's employment was heavily constrained. The results have external validity for women in today's labor market, such as mothers who are still heavily discriminated against in the labor market after having children. Future research on the effect of woman-friendly occupations in various contexts is needed.

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10 Figures

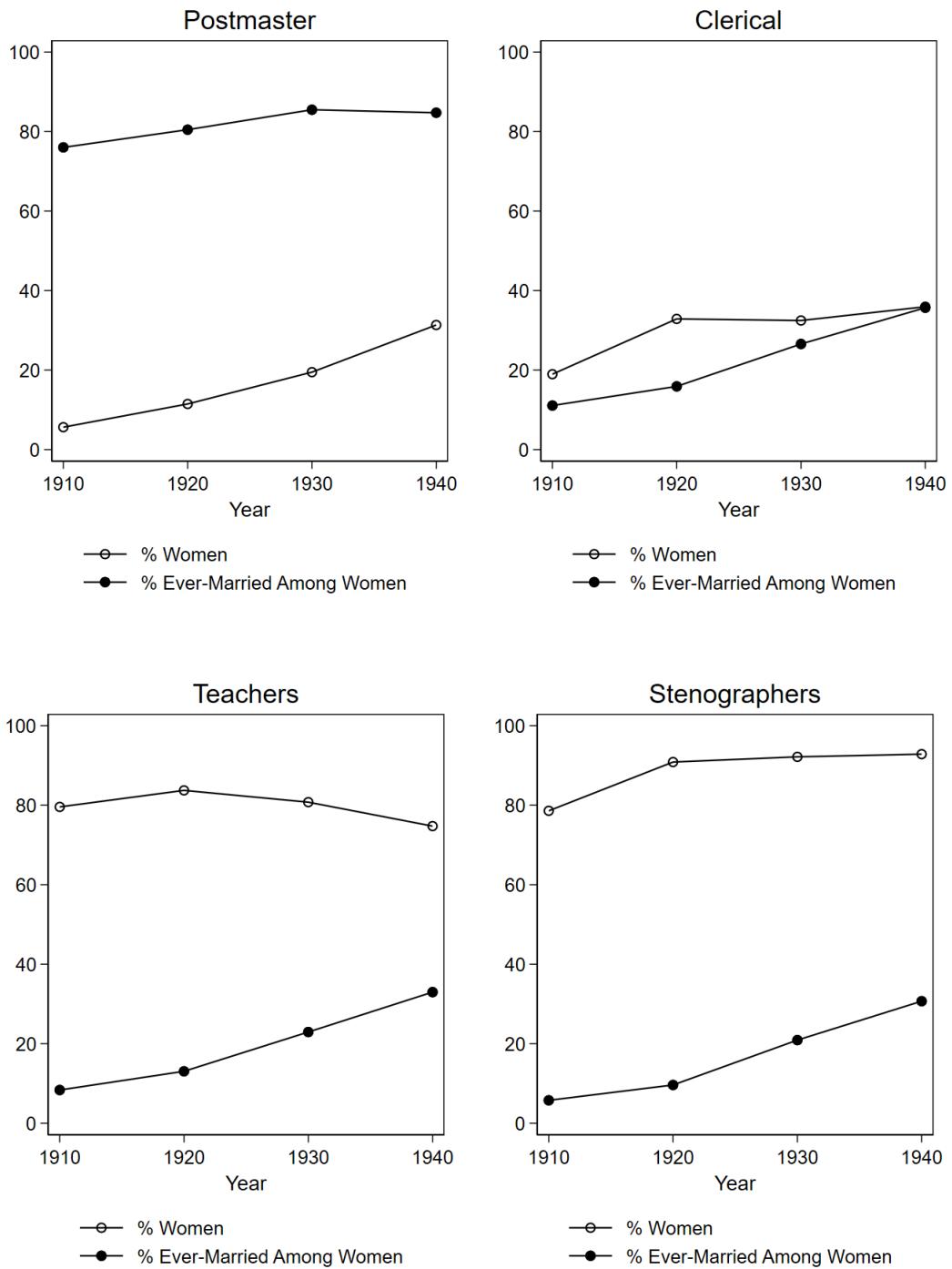
Figure 1: Sample Image from “Record of Appointment of Postmasters, 1832-1971”

The image shows a handwritten record of postmaster appointments. At the top, it specifies the location: Lake (County) and Florida (State). Below this, it indicates the post office: Clermont (Post Office). To the right, there are fields for "Established" and "Discontinued".

POSTMASTER	NOMINATED	CONFIRMED	RECESS OR ACTING	COMMISSION SIGNED AND MAILED	ASSUMED CHARGE	CAUSE AND DATE OF VACANCY	REMARKS
Miss Isabelle H. Boyd		Feb. 27, 1931	act. am July 5-35			Res.	
Mrs. Florence M. Bowman			Asst. Pres.		July 20-35		
Mrs. Florence M. Bowman	July 10-35	July 28-35	July 26-35	Aug. 10-35	Aug. 13, 1935	Corn. Ex.	
Mrs. Florence M. Bowman	July 12, 1939	July 18, 1939	July 26, 1939	Sept. 6, 1939	Sept. 16, 1939	Res.	
Robert O. Seaver			act. P.M. May 31, 1946		June 1, 1946		
Robert O. Seaver	Apr. 1, 1947	July 11, 1947	Act. Pres. July 14, 1947	July 14, 1947	Sept. 30, 1947		

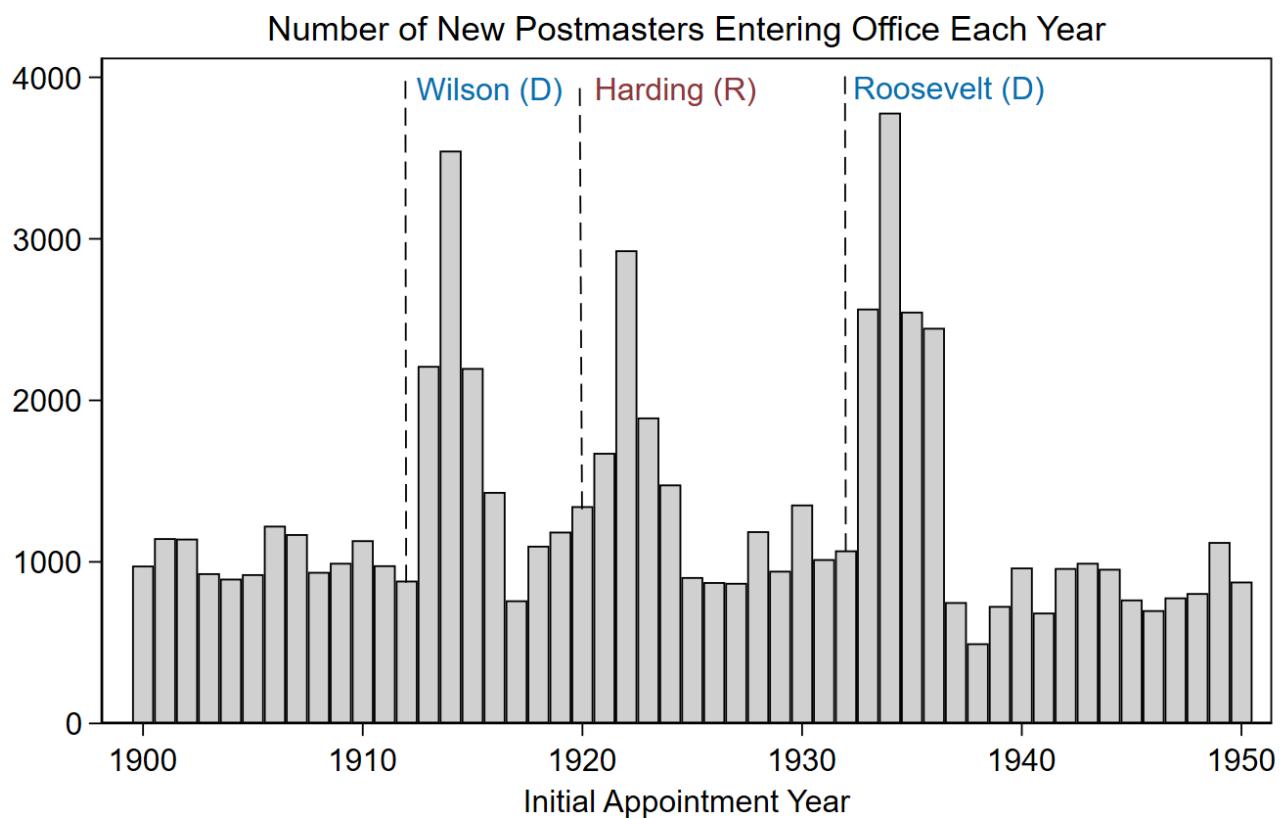
Source: Ancestry, 2021 and National Archives and Records Administration, 1977. The sample image shows the dataset contains rich information about postmaster appointments, including post office locations, postmaster names and postmaster appointment dates.

Figure 2: Share of Women and Ever-Married Women in Different Occupations



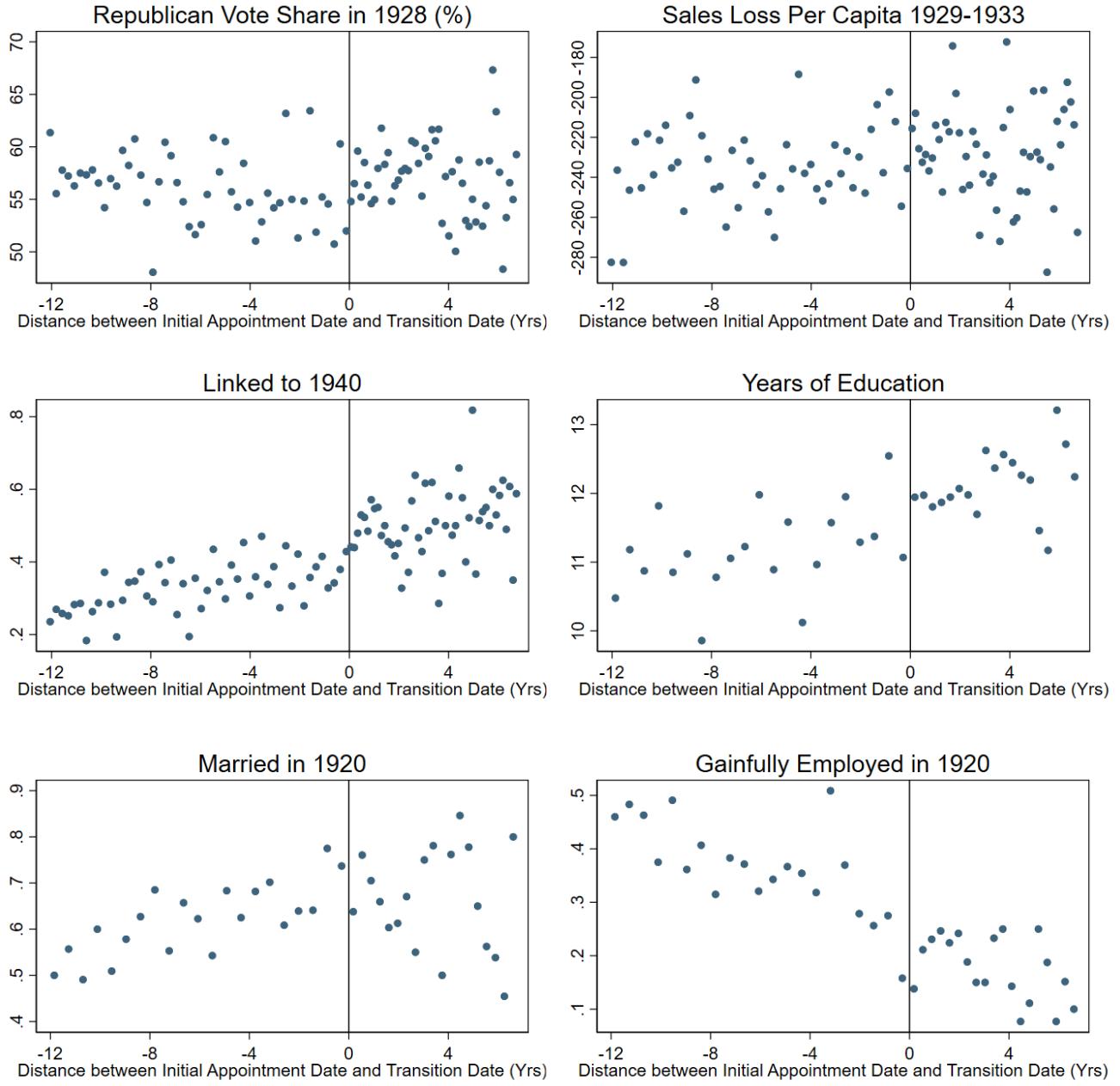
The figure shows the share of women in the postmaster, clerical, teacher and stenographer occupations between 1910 and 1940. The figure also shows the share of ever-married among women in each occupation. The share of women postmasters and ever-married women postmasters are calculated based on the dataset “Record of Appointment of Postmasters, 1832-1971”. The share of women and ever-married women in other occupations are calculated based on 1% IPUMS.

Figure 3: Number of New Postmasters Entering Office Each Year



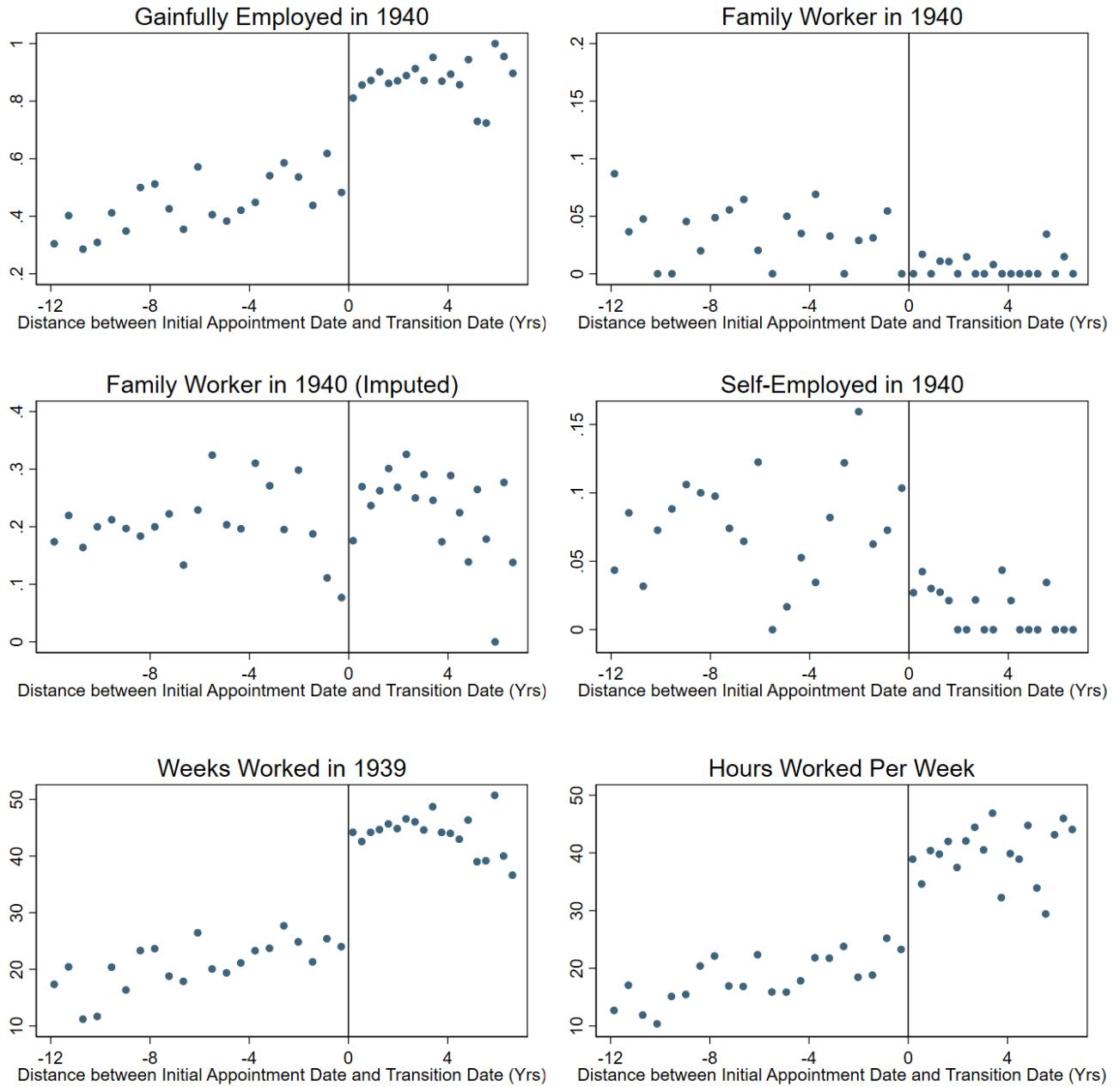
The figure shows the number of new postmasters entering office each year. Each vertical dashed line indicates the election year that led to a presidential transition when the party of the president changed from Republican to Democrat or from Democrat to Republican. Changes in the presidency within the same party are not labeled. The author's calculation is based on the dataset "Record of Appointment of Postmasters, 1832-1971".

Figure 4: Validity of RD – Pre-Determined Characteristics for Women Postmasters Appointed Just Before and Just After the 1933 Presidential Transition



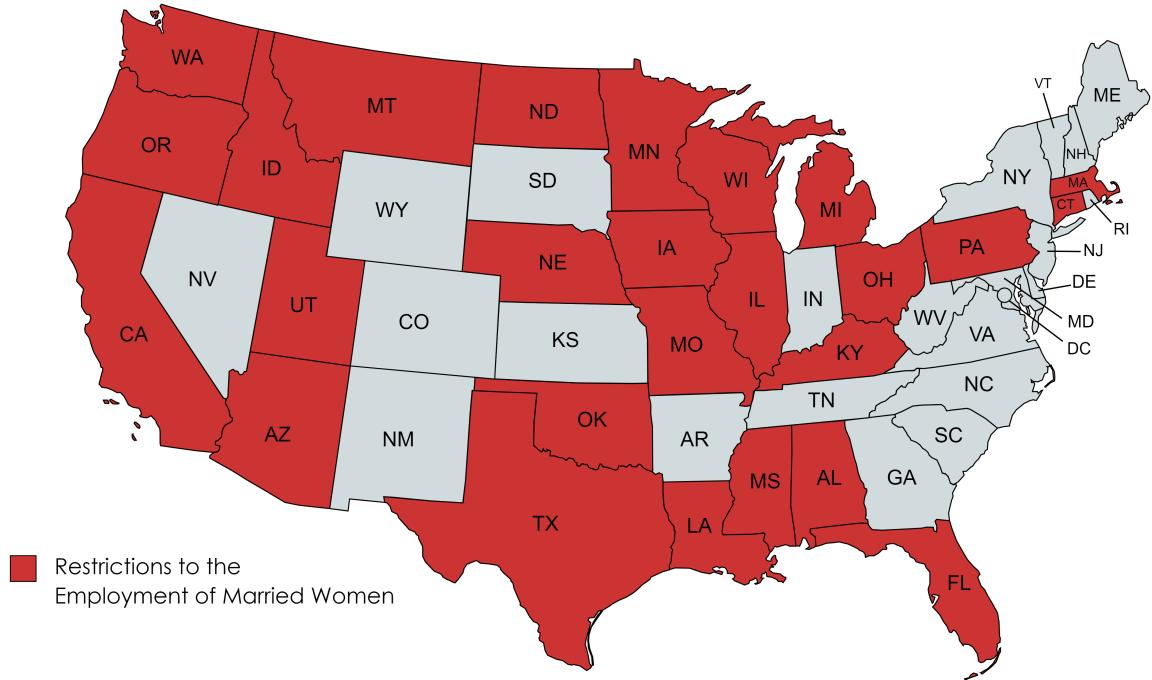
The figures plot pre-determined characteristics for women postmasters appointed between 1921 and 1939. The running variable is the distance between the initial appointment date and the presidential transition date (March 4, 1933). The outcome variables are county-level Republican vote share in 1928, county-level sales loss per capita between 1929 and 1933, the probability of the postmaster being linked to the 1940 census, years of education, and whether one was married/gainfully employed in 1920. The first three variables are from the full sample of women postmasters, and the last three variables are from the linked sample of women postmasters. Data are plotted in 100 or 40 quantile-spaced bins, and each bin contains the same number of observations (Calonico et al., 2015, Kortting et al., 2023). Linked data are re-weighted by inverse probability weights (Bailey et al., 2020). The availability of variables varies by different samples and censuses (see more details in Table 3).

Figure 5: Baseline RD Results – 1940 Labor Market Outcomes for Women Postmasters Appointed Just Before and Just After the 1933 Presidential Transition



The figures display RD estimates on 1940 labor market outcomes for women postmasters appointed just before and after the 1933 presidential transition ($N=2,464$). The running variable is the distance between the initial appointment date and the presidential transition date (March 4, 1933). The outcome variables are whether one was gainfully employed/an unpaid family worker/an unpaid family worker (imputed)/self-employed in 1940, weeks worked in 1939, and weekly hours worked in 1940. Data are plotted in 40 quantile-spaced bins, and each bin contains the same number of observations (Calonico et al., 2015, Kortting et al., 2023). Data are re-weighted by inverse probability weights (Bailey et al., 2020).

Figure 6: States that Introduced Legislation Against Married Women Working During the 1930s



Author's reproduction of Shallcross, 1940. The figure shows the states that introduced legislation against married women working during the Great Depression.

11 Tables

Table 1: Presidential Transitions during the Early-Twentieth Century United States

Presidential Transition Dates	Incumbent President	Incoming President	Share of Women Postmasters
March 4, 1913	William Taft (R)	Woodrow Wilson (D)	7%
March 4, 1921	Woodrow Wilson (D)	Warren Harding (R)	12%
March 4, 1933	Herbert Hoover (R)	Franklin Roosevelt (D)	22%

The table outlines the timing of the presidential transitions that took place during the early-twentieth century United States. It also displays the share of women postmasters at each presidential transition.

Table 2: Predetermined Characteristics of Women Postmasters and the General Population

	(1) Women Postmasters	(2) All Women	(3) Married Women Postmasters	(4) Married Women
Variables from the 1940 Census				
Years of Education	11.7 (2.7)	9.0 (3.5)	11.7 (2.6)	8.7 (3.4)
Age at Appointment	38.6 (9.2)	- -	37.5 (8.9)	- -
N	2338	40803176	1252	28104767
Variables from the 1920 Census				
Age	33.6 (8.6)	36.2 (12.7)	35.1 (8.1)	37.6 (11.5)
White	98.8 (10.8)	89.9 (30.1)	98.4 (12.5)	90.6 (29.2)
Native Born	98.3 (13.1)	82.4 (38.0)	98.1 (13.8)	80.0 (40.0)
Urban	12.0 (32.5)	56.8 (49.5)	12.3 (32.9)	51.9 (50.0)
Farm	22.1 (41.5)	24.6 (43.0)	22.2 (41.6)	28.2 (45.0)
Married	70.8 (45.5)	68.5 (46.5)	- -	- -
Gainfully Employed	31.7 (46.5)	25.6 (43.7)	15.2 (35.9)	7.5 (26.4)
Gainfully Employed (H)	- -	- -	98.0 (13.9)	96.4 (18.7)
Self-Employed	3.3 (17.8)	3.7 (18.8)	1.9 (13.7)	1.5 (12.2)
Self-Employed (H)	- -	- -	48.7 (50.0)	34.9 (47.7)
N	1892	30129809	1178	18627077
Variables from the 1920 Census: Conditional on Head/Spouse				
Homeowner	66.3 (47.3)	44.2 (49.7)	66.8 (47.1)	44.7 (49.7)
# Children	1.8 (1.6)	2.1 (2.0)	1.8 (1.6)	2.2 (2.0)
N	1294	20965460	1178	18627077

The table compares the predetermined characteristics of women postmasters appointed between 1921 and 1939 with the general female population. All samples are further restricted to be between ages 18-65. The outcome variables are years of education, age at appointment, age in 1920, whether one was White and native born (*100), urban and farm status in 1920 (*100), whether one was currently married in 1920 (*100), whether one's husband was gainfully employed in 1920 (*100), whether one's husband was self-employed in 1920 (*100), and whether one was a homeowner in 1920 (*100) and the number of children in the household in 1920 (conditional on head/spouse). The availability of variables varies by different samples and censuses. Postmaster data are weighted by inverse probability weights (Bailey et al., 2020).

Table 3: Validity of RD - Predetermined Characteristics for Women Postmasters Appointed Just Before and After the 1933 Presidential Transition

	(1) Number of Obs	(2) RD Estimate	(3) Standard Errors
Variables from Sample of Women PM			
Republican Vote 1928 %	5728	2.013	(3.21)
Sales Loss PC 1929-1933	5728	1.084	(16.62)
Father's OCCScore Rank	5728	0.012	(0.01)
Linked to 1940	5728	0.025	(0.10)
Linked to 1920	5728	0.120	(0.07)
Variables from Sample of Linked Women PM (1940)			
Years of Education	2464	0.969	(0.74)
Age at Appointment	2464	-3.022	(2.32)
Variables from Sample of Linked Women PM (1920)			
Age	2063	-5.023	(3.02)
White	2063	0.072	(0.08)
Native Born	2063	-0.041	(0.02)
Married	2063	-0.121	(0.12)
Employed	2063	-0.167	(0.21)
Urban	2063	0.082	(0.07)
Farm	2063	-0.315	(0.17)
South	2063	-0.237	(0.20)
<i>Conditional on Household Head/Spouse</i>			
Homeowner	1295	0.175	(0.22)
# Children	1295	-0.342	(0.55)

The table displays the RD estimates on pre-determined characteristics for women postmasters appointed between 1921 and 1939. The running variable is the distance between the initial appointment date and the presidential transition date (March 4, 1933). The outcome variables are county-level Republican vote share in 1928, county-level sales loss per capita between 1929 and 1933, father's OCCScore rank, the probability of the postmaster being linked to the 1940/1920 census, years of education, age at the appointment, age in 1920, whether one was White/native born/married/gainfully employed in 1920, farm and urban status in 1920, whether one lived in the South in 1920, whether one was a homeowner in 1920 (conditional on head/spouse), and the number of children in the household in 1920 (conditional on head/spouse). Standard errors are clustered by the running variable (Lee and Card, 2008), and linked data are re-weighted by inverse probability weights (Bailey et al., 2020). The availability of variables varies by different samples and censuses. * for $p < 0.05$, ** for $p < 0.01$, *** for $p < 0.001$

Table 4: Baseline RD Estimates - 1940 Labor Market Outcomes of Postmasters Appointed Just Before and After the 1933 Presidential Transition

	(1) Gainfully Employed	(2) Family Worker	(3) Self- Employed	(4) Weeks Worked	(5) Hours Worked
<i>Panel A: RD Estimates on Women Postmasters</i>					
RD Estimate	0.267** (0.09)	-0.026 (0.02)	-0.016 (0.05)	17.016*** (4.56)	11.186* (5.38)
N Total	2464	2464	2464	2464	2464
N Effective	1017	1092	868	1024	898
Bandwidth	924.5	1051.0	797.0	936.3	824.1
<i>Panel B: RD Estimates on Male Postmasters</i>					
RD Estimate	0.014 (0.03)	-0.009 (0.01)	-0.348*** (0.11)	1.330 (2.34)	3.917 (3.96)
N Total	8337	8337	8337	8337	8337
N Effective	3127	3030	1701	2648	2458
Bandwidth	807.7	789.3	438.1	701.6	629.7
<i>Panel C: Gender Differences in RD Estimates</i>					
RD Difference	-0.252** (0.10)	0.017 (0.02)	-0.332** (0.12)	-15.686** (5.12)	-7.270 (6.68)
N Total	10801	10801	10801	10801	10801

The table reports RD estimates on 1940 labor market outcomes for postmasters appointed just before and after the 1933 presidential transition. The running variable is the distance between the initial appointment date and the presidential transition date (March 4, 1933). The outcome variables are whether one was gainfully employed/an unpaid family worker/self-employed in 1940, weeks worked in 1939, and weekly hours worked in 1940. It additionally reports clustered standard errors by the running variable, the number of effective observations, and the optimal bandwidth (Lee and Card, 2008, M. D. Cattaneo et al., 2019). Data are re-weighted by inverse probability weights (Bailey et al., 2020). * for $p < 0.05$, ** for $p < 0.01$, *** for $p < 0.001$

Table 5: Robustness Checks on RD Estimates (Women Only) - 1940 Labor Market Outcomes of Women Postmasters Appointed Just Before and After the 1933 Presidential Transition

	(1) Gainfully Employed	(2) Family Worker	(3) Self- Employed	(4) Weeks Worked	(5) Hours Worked
<i>A. Bias-Corrected RD w. Robust Variance Estimator</i>					
RD Estimate	0.266* (0.11)	-0.031 (0.03)	-0.011 (0.06)	16.891** (5.62)	10.242 (6.51)
<i>B. Epanechnikov Kernel Density</i>					
RD Estimate	0.267** (0.09)	-0.027 (0.03)	-0.028 (0.05)	17.126*** (4.38)	11.629* (5.76)
<i>C. Bandwidth = 1000 Days</i>					
RD Estimate	0.266** (0.09)	-0.025 (0.02)	-0.006 (0.05)	17.047*** (4.45)	11.341* (4.84)
<i>D. County-level Controls</i>					
RD Estimate	0.264** (0.09)	-0.026 (0.02)	-0.021 (0.05)	17.189*** (4.61)	11.219* (5.69)
<i>E. Age Group Fixed Effects</i>					
RD Estimate	0.274** (0.09)	-0.025 (0.02)	-0.022 (0.05)	17.347*** (4.56)	11.360* (5.21)
<i>F. Placebo Test</i>					
RD Estimate	-0.077 (0.12)	-0.036 (0.04)	0.051 (0.09)	-3.887 (6.13)	-3.863 (5.51)
N	2464	2464	2464	2464	2464
<i>G. Donut RD dropping obs appointed after the 1932 election</i>					
RD Estimate	0.237* (0.10)	-0.045 (0.05)	-0.134 (0.10)	16.762*** (5.04)	11.293* (5.51)
N	2391	2391	2391	2391	2391

The table reports robustness checks on RD estimates from [Table 4](#). Panel A to Panel G report RD results with (A) bias-corrected RD estimates with robust variance estimator; (B) an Epanechnikov kernel density function; (C) bandwidth = 1000 days; (D) county-level control variables; (E) age group fixed effects; (F) a placebo test where the placebo presidential transition date is March 4th, 1926; (G) a donut RD design where observations within the distance between the election date in 1932 and the transition date in 1933 are dropped. Standard errors are clustered by the running variable ([Lee and Card, 2008](#)). Data are re-weighted by inverse probability weights ([Bailey et al., 2020](#)). * for $p < 0.05$, ** for $p < 0.01$, *** for $p < 0.001$

Table 6: By State-Level Discrimination Against Married Women and the Severity of the Great Depression - RD Estimates on 1940 Labor Market Outcomes of Women Postmasters Appointed Just Before and After the 1933 Presidential Transition

	(1) Gainfully Employed	(2) Family Worker	(3) Self- Employed	(4) Weeks Worked	(5) Hours Worked
<i>Panel A: States w. Legislation against Married Women Working</i>					
RD Estimate	0.393*** (0.11)	-0.012 (0.02)	0.011 (0.03)	22.569*** (5.92)	15.248* (6.23)
N	1641	1641	1641	1641	1641
<i>Panel B: States w/o Legislation against Married Women Working</i>					
RD Estimate	0.049 (0.18)	-0.023 (0.06)	-0.103 (0.11)	8.770 (7.99)	2.458 (11.00)
N	823	823	823	823	823
<i>Panel C: Counties w. Above Median Retail Sales Loss Per Capita</i>					
RD Estimate	0.408** (0.13)	-0.051 (0.04)	0.079* (0.03)	23.587*** (5.21)	12.912 (7.02)
N	1480	1480	1480	1480	1480
<i>Panel D: Counties w. Below Median Retail Sales Loss Per Capita</i>					
RD Estimate	-0.073 (0.18)	0.007 (0.01)	-0.338 (0.18)	4.944 (8.84)	7.529 (11.49)
N	984	984	984	984	984

The table reports RD estimates on 1940 labor market outcomes for postmasters appointed just before and after the 1933 presidential transition by state-level discrimination against married women (Panel A and B) and the severity of the Great Depression (Panel C and D). Data on states that introduced legislation against married women working are from Shalcross, 1940. The severity of the Great Depression is measured by retail sales loss per capita between 1929 and 1933 (Fishback et al., 2005). The running variable is the distance between the initial appointment date and the presidential transition date (March 4, 1933). The outcome variables are whether one was gainfully employed/an unpaid family worker/self-employed in 1940, weeks worked in 1939, and weekly hours worked in 1940. Standard errors are clustered by the running variable (Lee and Card, 2008). Data are re-weighted by inverse probability weights (Bailey et al., 2020). * for $p < 0.05$, ** for $p < 0.01$, *** for $p < 0.001$

12 Appendix

12.1 Eligibility of Postmaster Candidates and Civil Service Exams

The civil service commission established several minimum requirements for postmaster candidates that were independent of the candidate's ability. For example, the candidate must be a US citizen, and a naturalized citizen is acceptable. Male candidates must be 21 years old and above, and female candidates must be 18 and above. The candidate must also reside in the delivery area of the post office he or she would be in charge of (United States Civil Service Commission, 1916).

Meeting the minimum requirement only made the candidate eligible for the civil service exam, and only the top candidates from the exam would be considered for the position. Candidates for postmasters were tested on a few subjects. The most important subject was arithmetic which includes addition, subtraction, multiplication, and division. For example, one exam question asked the candidates to make an itemized list of transacted money orders over the past month, as well as to balance and close the statement based on fees charged in each money order. Arithmetic skills were necessary because postmasters must keep track of sales and receipts to report post office revenue correctly. Additional subjects included penmanship and letter writing which would help communication between post offices, efficient mail delivery, and many other post office businesses (United States Civil Service Commission, 1916).

Postmasters in larger post offices were subject to even higher standards. Specifically, postmasters in charge of Class 3 post offices and above must demonstrate "business training, experience, and fitness" and "the ability in meeting and dealing satisfactorily with the public" (United States Civil Service Commission, 1922). The demonstration often included a personal history of past business managing experience that needed to be verified by the civil service commission. The highest paying post offices specifically required more than 5 to 7 years of experience in similar types of employment (United States Civil Service Commission, 1922).

Figure A9 shows the requirement for postmasters in charge of Class 3 post offices and an example question that asks the candidates to calculate the fees associated with money orders received in a specific post office.

12.2 Sample of Postmasters and Post Offices in the Analysis

I only include postmasters who were presidential appointees in the analysis. This group of postmasters is often referred to as Class 1, 2, and 3 postmasters. Specifically, post offices were classified into Class 1 through 4 based on post office revenue and postmaster salary. Class 1 post offices are the largest, often in metropolitan areas, and were subject to the highest demand for mail and parcels. Class 4 post offices are the smallest, serving local towns with a few hundred residents. Due to differences in mail volumes and post office revenue, postmasters of Class 1 post offices have the highest salary, ranging from \$5,000 to \$10,000 per year during the early 20th Century, while postmasters of Class 4 have the lowest salary and over 70 percent of them received below \$100 per year (Hoogenboom, 1959). The classification was adjusted every two years based on post office revenue, but most adjustments were minor changes since mail volumes (determined by population in a locality) were relatively stable over the years.

I do not include postmasters from Class 4 in the analysis for several reasons. First, given the low level of compensation for Class 4 postmasters, it is unlikely that being a postmaster was their full-time job. Gaining or losing a part-time postmaster job at a Class 4 post office might have little impact on the person's overall labor market outcomes. In addition, this implies that Class 4 postmasters had higher turnover rates than others and more frequent turnovers outside presidential transition periods. High turnover rates make linking Class 4 postmasters to the complete count censuses much more complex since postmasters might have moved away from the county of appointment. Lastly, Class 4 postmasters stopped being presidential appointees between 1909 and 1913 because both President Theodore Roosevelt and President William Taft took the initiative to classify Class 4 post offices under the merit system.²⁶

²⁶Classifying Class 4 post offices under merit system was a political decision since Class 4 postmasters had the lowest stake among all presidential appointees and both executive orders went into effect as Roosevelt and Taft were leaving office.

12.3 Predict Postmaster Gender Based on Names

I infer the gender of the postmaster using two methods. The first method is based on prefixes, since many women postmasters have “Miss” or “Mrs” written before their names in the appointment records, which is a clear indication that the postmaster is a woman. The second method infers gender based on first names. Specifically, I calculate the probability of someone being a woman based on the share of women who had the same name. The “training data” used to calculate the share of women who had a specific name are popular baby names published by Social Security Administration (see more explanation of the method in Blevins and Mullen, 2015). I do the calculation for each name in different decades to minimize errors in predicting gender based on historical names, because some names were predominantly men’s names and later became women’s names (and vice versa).²⁷ If over 90 percent of people with the name X were women in the “training data”, I conclude that the person with the name X in the postmaster appointment data is a woman.

²⁷For example, Blevins and Mullen, 2015 shows “Leslie” was a man’s name till the 1950s, but it became a woman’s name gradually during the late 20th Century.

12.4 Causal Evidence on Postmaster Jobs and Women's Employment

I present more causal evidence additionally support the argument shown in [Section 4](#), which is that postmaster jobs provided new employment opportunities for women and have improved women's employment. The causal relationship is established using a regression discontinuity design that compares women postmasters appointed just before and just after the census date to estimate the difference in gainful employment reported in the census.

The intuition behind this RD design is that women postmasters appointed just before and after the census date would report different degrees of employment in the census but would be otherwise similar in pre-determined characteristics. This is because the date that the census was taken is exogenous, and the distance between the postmaster's appointment date and the census date is as good as random. As a result, the difference in gainful employment reported in the census from these two groups simply reflects the difference in gainful employment because of the postmaster job.

Since there are enough observations to study women postmasters appointed before and after the 1930 and 1940 census dates in this setup, I link women postmasters appointed in a 10-year window before and after the 1930 and 1940 census dates to their 1930 and 1940 census records, respectively. The census linking procedure is the same as described in [Section 2](#), and the inverse probability weights are generated.

Formally, the RD treatment effect is expressed as:

$$E[Y_i(1) - Y_i(0)|X_i = X_0]$$

Where Y_i is the economic outcome for individual i in the 1930 or 1940 census, X_0 is the day that the 1930 or 1940 census was taken (which is April 1, 1930 or April 1, 1940), and X_i is the initial appointment date of the postmaster. The running variable is the distance between the initial appointment date and the census date. The outcome variable is whether one was gainfully employed at the census date.²⁸

The RD estimates in [Figure A10](#) confirm that postmaster jobs improved women's employment outcomes. There is a large discontinuity in gainful employment reported by women post-

²⁸Since the 1930 census does not ask respondents about their labor supply, I only study gainful employment as the outcome variable here.

masters at the census date in both cases. Consistent with the expectation, women postmasters appointed just before the census date were more likely to report being gainfully employed in the census, suggesting that postmaster jobs increased women's employment. Specifically, the RD estimates suggest the increase in employment was 14.1 pp. in 1930 and 23.9 pp. in 1940.

Note that the RD estimate is smaller in 1930 than in 1940, and this could be due to a few reasons. One reason could be that some postmasters were already working as postmasters in 1930, even though they were officially appointed after the 1930 census was taken. The other reason could be that more women found it necessary to work when the Great Depression took place, resulting in a smaller increase in employment in 1930 than in 1940.

12.5 Fuzzy RD Design

Given that postmasters appointed by one party were extremely unlikely to be appointed by the opposite party after the presidential transition, sharp RD (discussed in [Section 5](#)) is the preferred identification. That said, I find the probability of being a postmaster in 1940 does not increase discontinuously from 0 to 1 at the presidential transition date in [Figure A11](#). Specifically, some women postmasters appointed before the 1933 transition reported being postmasters in 1940 (even though they should not), and some women postmasters appointed after the 1933 transition reported not being postmasters in 1940 (even though they should).²⁹ This makes it reasonable to additionally examine the RD results with a fuzzy RD design.

The Fuzzy RD design is similar to the Instrumental Variables (IV) approach. I estimate a first-stage regression of reporting one's occupation as the postmaster in 1940 on the running variable. Since the distance between the initial appointment date and the presidential transition date is taken as exogenous, the fuzzy RD estimates recover the causal effect of being appointed just before the presidential transition date on the 1940 labor market outcomes.

As shown in [Table A1](#), the fuzzy RD results are consistent with the baseline RD results from [Table 4](#). Women postmasters were much less likely to be gainfully employed and decreased their labor supply substantially after finishing their postmaster term. Note that the magnitudes of the fuzzy RD estimates are much larger, suggesting a 77.9 pp. decrease in the probability of future employment (as opposed to the 26.7 pp. in the baseline) and a 50 weeks worked per year reduction in labor supply (as opposed to 17.0 weeks in the baseline). This is possibly driven by the fact that the fuzzy RD design eliminates measurement errors in reporting one's occupation in the census, thus generating larger estimates because the previous estimates were biased downward.

²⁹The probability of being a postmaster in 1940 does not change discontinuously from 0 to 1, which could be due to several reasons. First, people who were appointed as postmasters might not report "postmaster" being their main occupation in 1940. For example, some postmasters might also work as store managers during the meantime and report "manager" as their main occupation. Second, people who were appointed as postmasters between 1933 and 1940 might have left their jobs for various reasons since natural turnovers did happen frequently. Third, people might not report their occupations truthfully in the census, especially when they did not have a valid occupation.

12.6 Heterogeneous Effects Among Women Postmasters Appointed Before the Presidential Transition

I present the heterogeneous effects among women postmasters who lost their postmaster jobs (namely, those appointed before the presidential transition). Examining heterogeneous effects allows us to understand better why women experienced a loss of employment after finishing their postmaster term. For example, we might expect that single women would be more likely to be employed again than married women due to marriage bars in hiring and retaining married women workers.

12.6.1 Heterogeneous Effects Among Married and Single Women

I show married women were less likely to be gainfully employed than single women after finishing their postmaster term. Specifically, I estimate the heterogeneous effect by women's marital status using the following specification:

$$Y_{icap} = \beta_0 + \beta_1 \text{Married}_i + \gamma_c + \gamma_a + \gamma_p + X'_{icap} \Theta + \epsilon_{icap}$$

Y_{icap} is the 1940 outcome for postmaster i in county c . The variable is also indexed by a , which indicates the initial appointment year, as well as p , which indicates the size of the post office. Married_i is a dummy variable that equals 1 if the woman postmaster was currently married and equals 0 if the woman postmaster was never married or divorced/separated/widowed. I include county fixed effects γ_c , initial appointment year fixed effects γ_a , and post office size fixed effects γ_p , which allows me to compare women postmasters who were appointed in the same year/county/similar post offices. I also added individual-level control variables X_{icap} including age, age square, farm and urban status, years of schooling, and migration status. β_1 is the coefficient of interest, and the results are shown in [Table A2](#).

Using the full sample of women postmasters appointed between 1921 and 1933 (before the presidential transition date), the estimate suggests that married women were 24.8 pp. less likely to be gainfully employed than single women. A comparison between β_1 and the baseline RD estimate from [Table 4](#) indicates that the magnitude of β_1 is quite large. This is consistent with the historical account that most married women could not find employment due to marriage bars preventing married women from working. The estimates on weeks worked and hours

worked are negative, suggesting that married women decreased their labor supply more relative to single women, but the estimates are less significant.

12.6.2 Heterogeneous Effects Among Women with Longer and Shorter Tenure

I show women postmasters with more years of tenure were more likely to be gainfully employed after finishing their postmaster term. Specifically, I estimate the heterogeneous effect by women's length of tenure using the following specification:

$$Y_{icap} = \beta_0 + \beta_1 Tenure_i + \gamma_c + \gamma_a + \gamma_p + X'_{icap} \Theta + \epsilon_{icap}$$

The specification is similar to the one above, except that the treatment variable is now $Tenure_i$, which is a continuous variable that denotes the length of tenure that a woman postmaster had. β_1 is the coefficient of interest, and the results are shown in [Table A3](#).

An additional year of tenure on the postmaster job increased women's probability of employment in 1940 by 1.9 pp. and their labor supply by 0.9 weeks worked per year and 1 hour worked per week. Given that women postmasters appointed between 1921 and 1933 had 4 to 12 years of tenure on the job, the estimate translates to approximately 8 to 24 pp. increase in the probability of gainful employment. Overall, the results suggest that having longer tenure on the postmaster job was beneficial to future employment.

12.7 DID Estimates are Similar to Gender Differences in RD Estimates

I use a difference-in-difference (DID) design to compare women's employment with men's. I show that the DID estimates are similar to gender differences in RD estimates, which further strengthens the argument that women experienced a large reduction in employment even after accounting for selection issues.

Note that census linking is a bit more complicated in the DID design because I need both pre-job-loss outcomes in 1930 and post-job-loss outcomes in 1940 for the same group of postmasters. Towards that goal, I first link postmasters appointed between 1920 and 1940 to their 1940 census records following the same procedure illustrated in [Section 2](#). I then link postmasters already linked to the 1940 census again to their 1930 census records. The second step is performed using multi-generational longitude panel (MLP) linking developed by Helgertz et al., [2023](#).³⁰

Using the sample of postmasters who were appointed before the census year 1930 (and thus before the presidential transition), I run the following regression:

$$Y_{icapt} = \beta_0 + \beta_1 Female_i + \beta_2 Post_t + \beta_3 Female_i \times Post_t + \gamma_c + \gamma_a + \gamma_p + X'_{icapt} \Theta + \epsilon_{icapt}$$

Y_{icapt} is the outcome variable for postmaster i in county c and year t . t takes on the value of 1930 or 1940. The variable is also indexed by a , which indicates the initial appointment year, as well as p , which indicates the size of the post office. $Female_i$ is a dummy variable that equals 1 if the postmaster is a woman. $Post_t$ is a dummy variable that equals 0 if the year is 1930, the period where most postmasters appointed before 1930 were still on the job. $Post_t$ equals 1 if the year is 1940, the period when postmasters appointed before 1930 lost their jobs. I include county fixed effects γ_c , initial appointment year fixed effects γ_a , and post office size fixed effects γ_p to compare female and male postmasters in charge of similar post offices. I also added individual-level control variables X_{icapt} , including age, age square, marriage, farm and urban status, and years of schooling.

We are interested in β_3 , the DID estimate. The DID estimate only captures the gender differences in response to job loss, but not the effect of job loss on women or men alone. The interpretation of β_3 is the additional negative effects women experienced after job loss relative

³⁰At the time of writing, MLP linking is the only publicly available dataset that links both women and men between 1930 and 1940. It links women based on information from other members of the household.

to men. The advantage of DID is that it compares female and male postmasters appointed by the same party and as a result, who experienced similar selection issues.

[Table A4](#) reports the DID coefficients that estimate the gender differences in post-job-loss employment and self-employment. The gender difference in post-job-loss employment and self-employment is 33.5 pp. and 25.5 pp., similar to the gender difference in RD estimates reported in Panel C of [Table 4](#). Both RD and DID results suggest women suffered a larger reduction in employment relative to men.

12.8 Counterfactual RD Estimates by Severity of the Great Depression

I outline the details of constructing counterfactual RD estimates based on different levels of severity of the Great Depression. The goal of the exercise is to understand the extent to which women's employment loss was driven by the intensity of an economic downturn. Specifically, I construct RD estimates assuming everyone in the sample experienced sales loss per capita at the 10th, 25th, 50th, 75th, and 90th percentile.

The first step is to run a linear regression of the individual-level outcome variable on the county-level sales loss per capita between 1929 and 1933:

$$Y_{ic} = \alpha_0 + \alpha_1 * SalesLossPC_c + X'_{ica}\Theta + D'_c\Psi + v_{ic}$$

Y_{ic} is the 1940 outcome variable for postmaster i in county c . The regression includes individual-level control variables X_{ic} and county-level control variables D_c .³¹ I run this linear regression by the initial appointment year of the postmaster because the effect of sales loss on the outcome variable might be stronger for those appointed during the Great Depression.

With the coefficient of sales loss generated in the first step, I construct the counterfactual outcome for postmasters appointed in different years, which equals the actual outcome variable plus $\Delta(SalesLoss) = SalesLossPC_c - SalesLossPC_i$, where $SalesLossPC_i$ takes the value of the sales loss per capita at the i -th percentile, and i takes on values 10, 25, 50, 75 and 90.

With the counterfactual outcomes, I run the RD design as described in [Section 5](#). The new RD estimates reflect the changing relationship between the magnitude of the employment loss and the severity of the Great Depression.

13 Appendix Figures and Tables

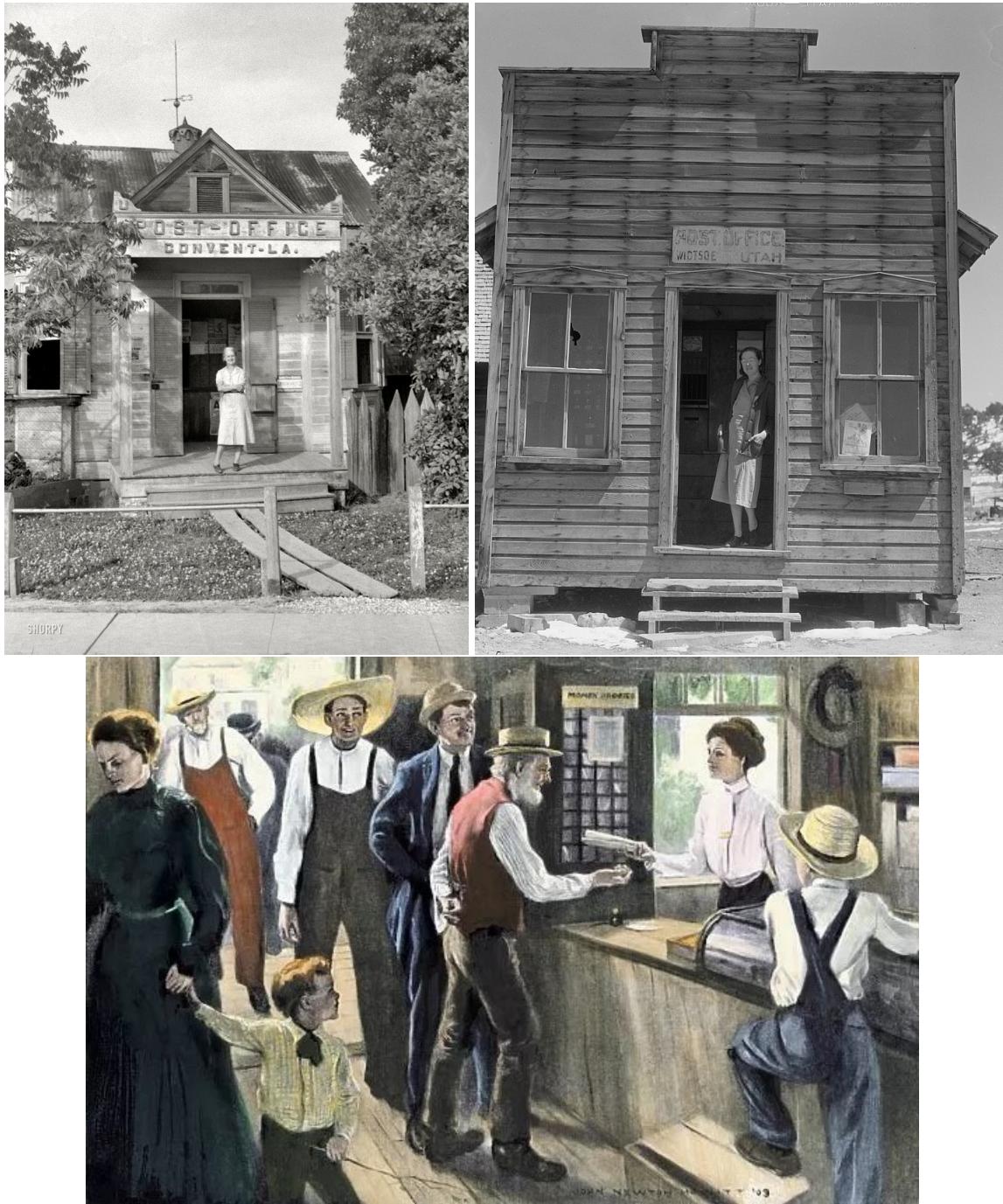
³¹Specifically, the individual-level variables are age, age square, marital status, farm, and urban status, years of schooling, and migration. The county-level variables are the share of high school/college graduates, the share of women, the share of Whites, the share of the working population by gender, and population density.

Figure A1: Sample Image of US Official Postal Guide, 1939

Classified List of Post Offices, With Salaries						877		
CONNECTICUT—Continued			CONNECTICUT—Continued			DISTRICT OF COLUMBIA		
Office	Class	Salary	Office	Class	Salary	Office	Class	Salary
Glastonbury.... GV	2	\$2,700	South Norwalk.. G F	1	\$3,800	Washington.... G F	1	\$10,000
Glenville.....	3	2,000	Southport.....	2	2,500	FLORIDA		
Granby.....	3	1,600	South Willington.....	3	1,700	Alachua.....	3	1,900
Greens Farms.....	2	2,400	Springdale..... F	2	2,500	Altamonte Springs.....	3	1,200
Greenwich.... G F	1	5,000	Stafford Springs.... F	2	2,500	Altha.....	3	1,400
Guilford..... F	2	2,400	Stamford.... G F	1	4,500	Apalachicola.... G F	2	2,400
Haddam.....	3	1,600	Stepney Depot.....	3	1,800	Apopka.....	2	2,400
Hartford.... G F	1	7,000	Sterling.....	3	1,600	Arcadia.... G F	2	2,600
Hazardville.....	3	1,700	Stonington.... F	2	2,500	Archer.....	3	1,400
Higganum.....	3	1,800	Stony Creek.....	3	1,600	Atlantic Beach.....	3	1,800
Ivoryton.....	2	2,500	Suffield..... V	3	2,200	Auburndale.....	2	2,400
Jewett City.... F	2	2,500	Taftville.....	3	2,100	Avon Park.....	2	2,500
Kensington.... V	2	2,500	Terryville.....	2	2,500	Babson Park.....	3	1,700
Kent.....	3	2,300	Thomaston.... G F	2	2,700	Bagdad.....	3	1,200
Killingly.....	3	1,500	Thompson.....	3	1,500	Baker.....	3	1,300
Lakeville.....	2	2,500	Thompsonville.... G F	2	2,900	Bartow.... G F	2	2,800
Litchfield.....	2	2,700	Torrington.... G F	1	3,600	Bay Harbor.....	3	1,700
Madison.....	2	2,500	Uncasville.....	3	1,900	Bay Pines.....	3	1,800
Manchester.... G F	1	3,500	Unionville.... V	2	2,500	Belleair.....	3	1,100
Mansfield Depot.....	3	1,400	Versailles.....	3	1,600	Belle Glade.....	3	2,300
Meriden.... G F	1	3,900	Voluntown.....	3	1,300	Blountstown.....	3	2,100
Middlebury.....	2	1,900	Wallingford.... G F	1	3,500	Bocagrande.....	3	1,900
Middlefield.....	3	2,300	Warehouse Point.....	3	1,700	Boca Raton.....	3	1,900
Middletown.... G F	1	3,700	Washington.....	3	2,100	Bonifay.... V	3	2,200
Milford.... G F	1	3,300	Washington Depot.....	3	2,100	Bowling Green.....	3	1,600
Milldale.....	3	2,200	Waterbury.... G F	1	4,500	Boynton.....	3	1,900
Montville.....	3	2,100	Waterford.....	3	2,000	Bradenton.... G F	1	3,300
Moodus.....	3	2,300	Watertown.... F	2	2,700	Branford.....	3	1,600
Moosup.....	3	2,200	Wauregan.....	3	1,300	Brewster.....	3	1,400
Mystic.... G F	2	2,700	Westbrook.....	3	2,300	Bronson.....	3	1,100
Naugatuck.... G F	1	3,500	West Cheshire.....	3	2,100	Brooksville.... F	2	2,400
New Britain.... G F	1	4,200	West Cornwall.....	3	1,500	Bunnell.....	3	1,900
New Canaan.... F	1	3,200	Westport.... G F	1	3,400	Bushnell.....	3	1,900
New Hartford.....	3	2,000	West Willington.....	3	1,400	Callahan.....	3	1,500
New Haven.... G F	1	7,000	Willimantic.... G F	1	3,300	Canal Point.....	3	1,700
Newington.....	3	2,200	Wilton.....	3	2,300	Carrabelle.....	3	1,600
New London.... G F	1	3,800	Windsor..... F	2	2,700	Cedar Keys.....	3	1,400
New Milford.... G F	2	2,900	Windsor Locks.... F	2	2,400	Center Hill.....	3	1,500
New Preston.....	3	1,700	Winsted.... G F	1	3,200	Century.....	3	1,700
Newtown.....	3	2,300	Woodbury.....	3	2,100	Chattahoochee.....	3	2,300
Niantic.....	2	2,400	Woodmont.....	3	1,900	Chiefland.....	3	1,400
Noank.....	3	1,600	Yalesville.....	3	1,400	Chipley.... V	2	2,400
Norfolk.....	2	2,400	Yantic.....	3	1,500	Citra.....	3	1,100
Noroton.....	3	2,200	DELAWARE			Clearwater.... G F	1	3,400
Noroton Heights.....	3	2,200	Bellevue.....	3	1,100	Clermont.....	2	2,400
North Grosvenor Dale.....	3	1,900	Bridgeville.....	3	2,300	Clewiston.....	2	2,400
North Haven.....	3	2,100	Camden.....	3	1,600	Cocoa.....	2	2,600
North Stonington.....	3	1,200	Cheswold.....	3	1,200	Coronado Beach.....	3	1,400
Norwalk.... G F	1	3,600	Claymont.... V	2	2,400	Cottondale.....	3	1,500
Norwich.... G F	1	3,700						

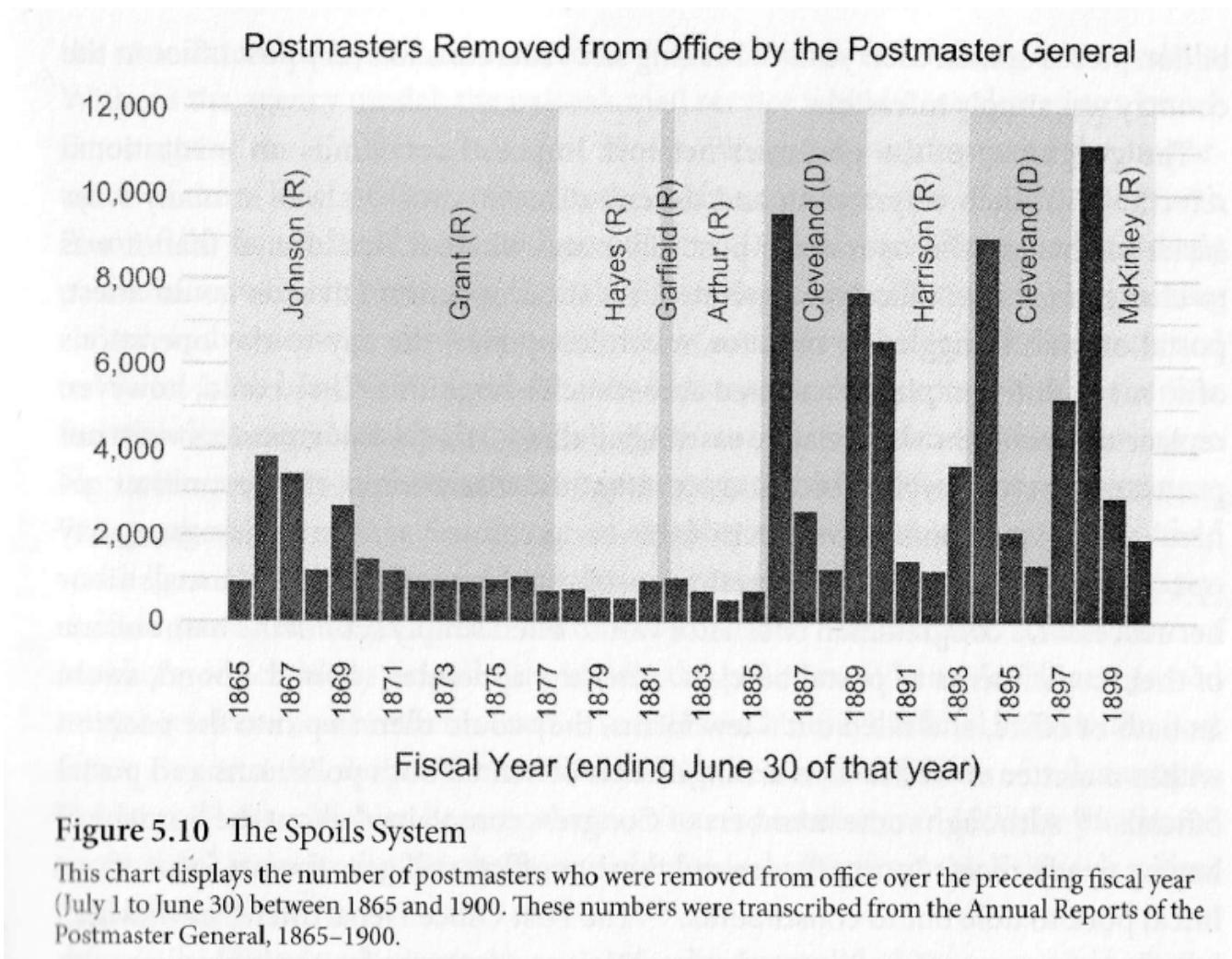
The figure shows the postmaster salary and level of classification for post offices in Connecticut, Delaware, District of Columbia, and Florida in 1939 (United States Government Printing Office, 1939). For example, the Clermont post office in Florida was a Class 2 post office, which suggested that it was one of the larger post offices in urban areas. The postmaster's salary was \$2,400.

Figure A2: Work Arrangements of Women Postmasters



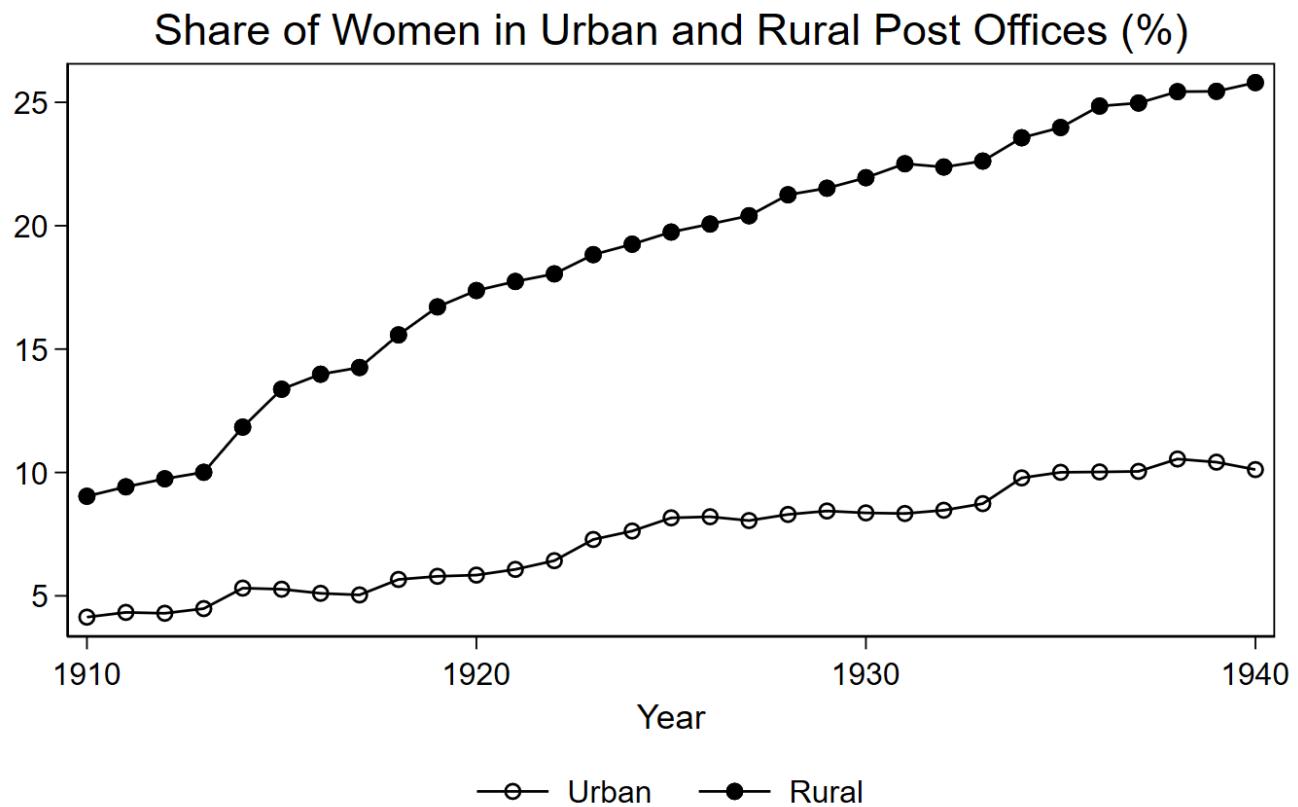
Top left: Photo of a woman postmaster in Covent, Louisiana, taken by John Vachon for the Farm Security Administration. Top right: Photo of a woman postmaster in a Utah post office published by the National Postal Museum. Bottom: the reproduction of a 1905 illustration, "Meeting the new postmistress, early 1900s" (original source unknown).

Figure A3: Number of Postmasters Removed during the Late-Nineteenth Century



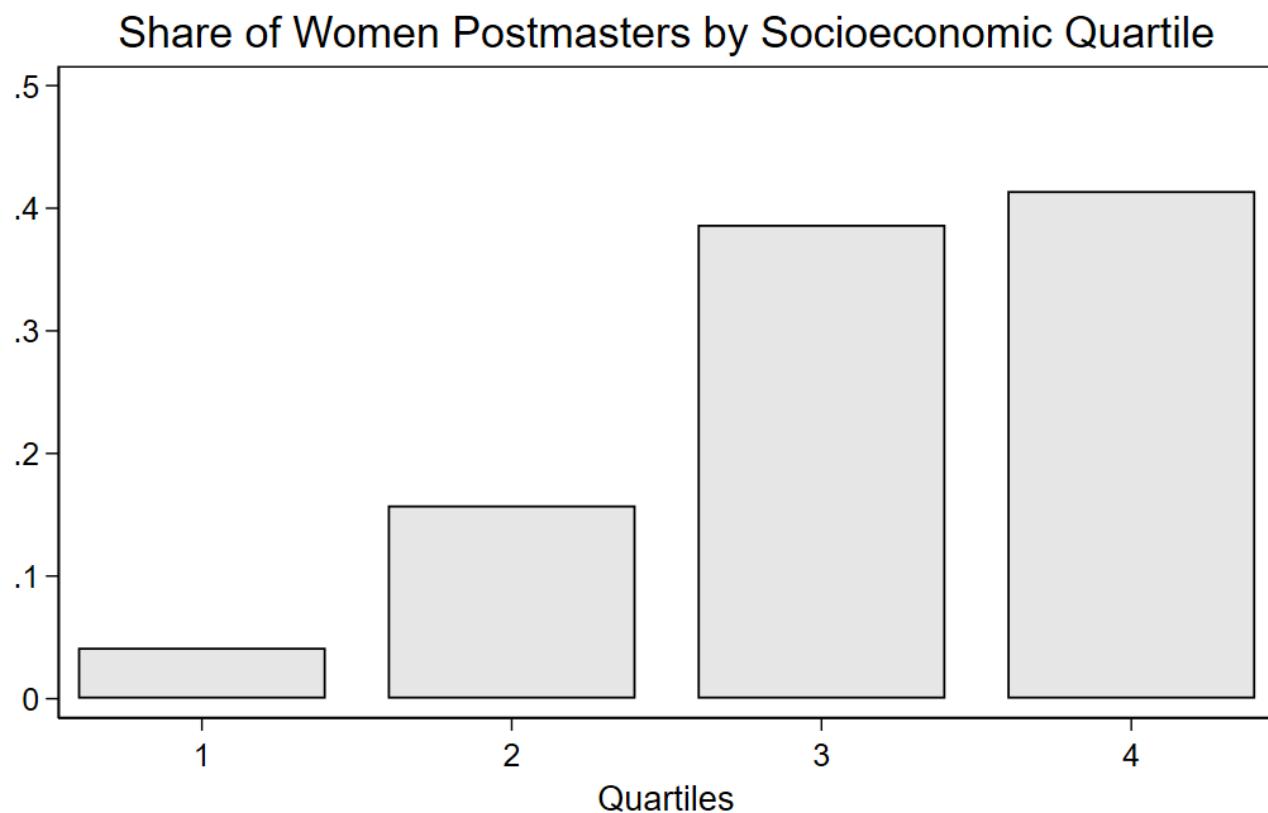
The figure shows the number of postmasters removed in each fiscal year during the late-nineteenth Century United States (Blevins, 2021).

Figure A4: Share of Women Postmasters in Urban and Rural Post Offices



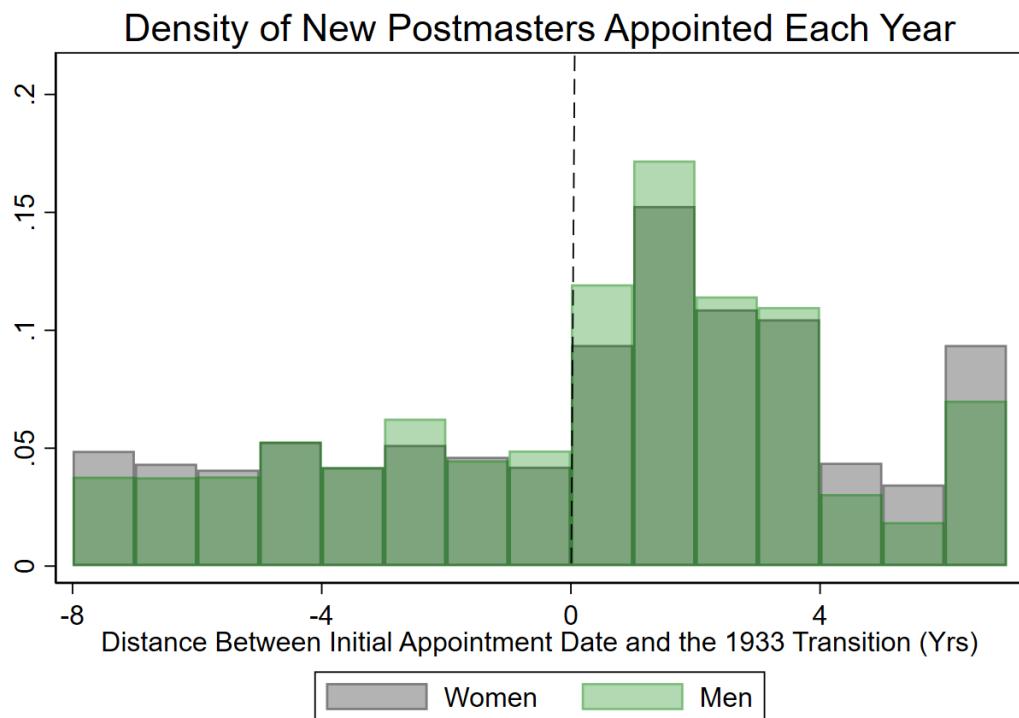
The figure shows the share of women postmasters in urban and rural post offices between 1910 and 1940. Urban post offices were defined as Class 1 and Class 2 post offices, and rural post offices were defined as Class 3 post offices (based on the definition in the Postal Guide). The shares are calculated based on the dataset "Record of Appointment of Postmasters, 1832-1971".

Figure A5: Share of Women Postmasters in Each Socioeconomic Quartile



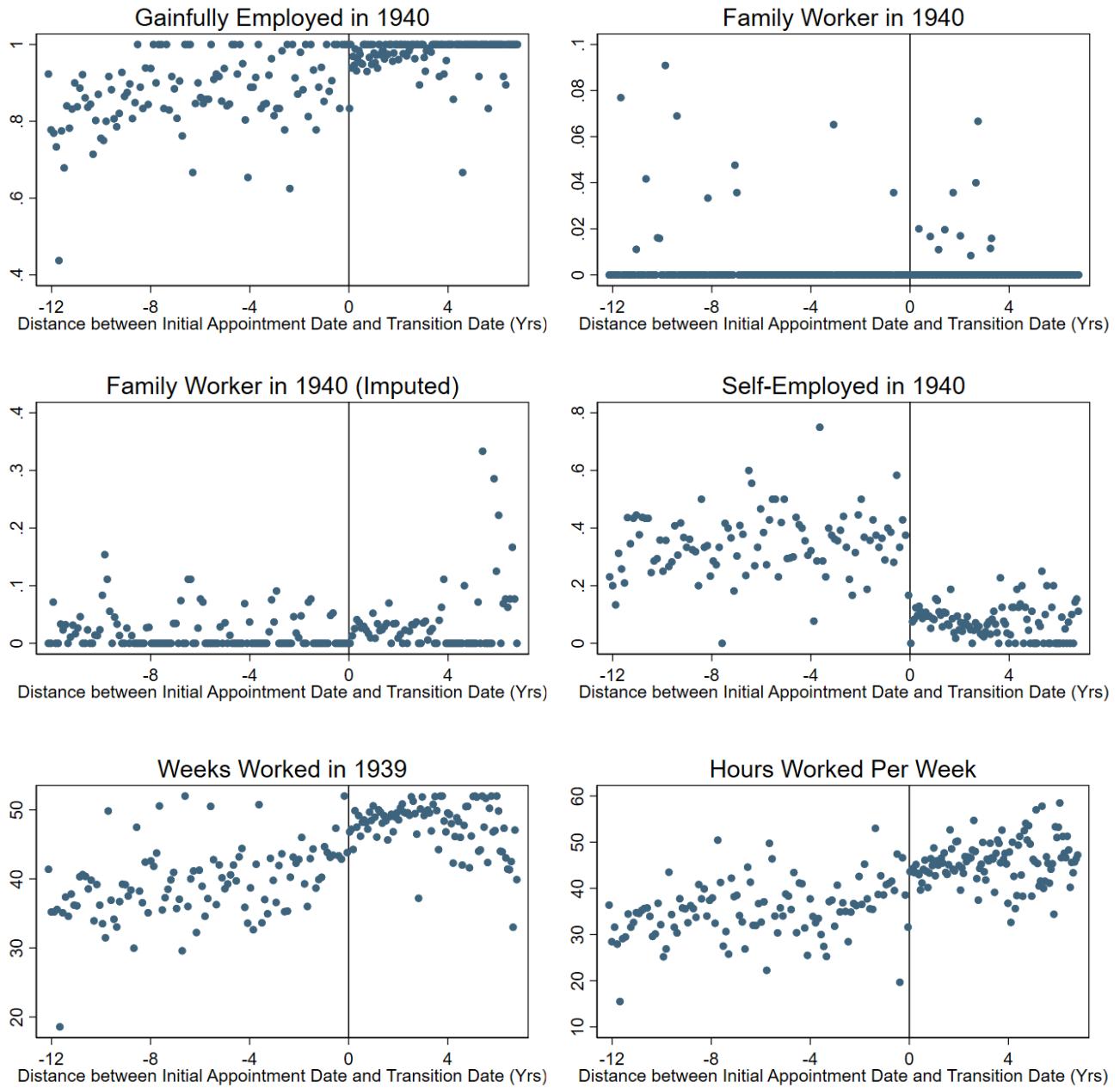
The figure shows the share of women postmasters in each socioeconomic quartile ($N=5,600$). Socioeconomic backgrounds are imputed by first names (Olivetti and Paserman, [2015](#)). Quartile 1 is the bottom 25 percent, and Quartile 4 is the top 25 percent.

Figure A6: Histogram Density Plots of Postmasters Appointed Each Year



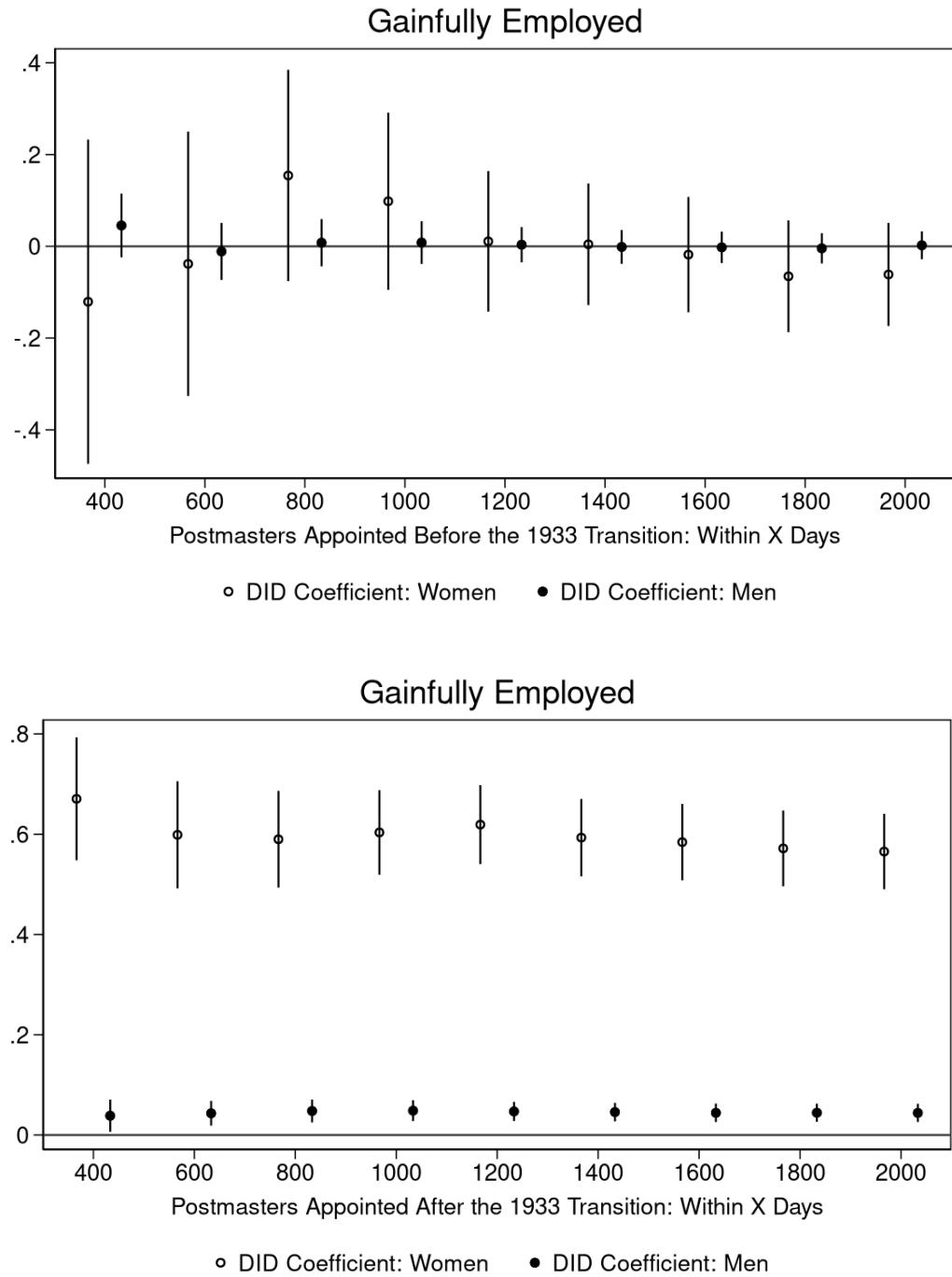
The figure plots the histogram density plots of postmasters appointed each year by gender. Plots for women postmasters are in gray, and plots for male postmasters are in green. The vertical dashed line indicates the 1933 presidential transition date. The x-axis is the standardized distance between the initial appointment date and the 1933 presidential transition date.

Figure A7: Baseline RD Results - 1940 Labor Market Outcomes for Male Postmasters Appointed Just Before and Just After the 1933 Presidential Transition



The figures display RD estimates on 1940 labor market outcomes for male postmasters appointed just before and after the 1933 presidential transition ($N=8,337$). The running variable is the distance between the initial appointment date and the presidential transition date (March 4, 1933). The outcome variables are whether one was gainfully employed/an unpaid family worker/an unpaid family worker (imputed)/self-employed in 1940, weeks worked in 1939, and weekly hours worked in 1940. Data are plotted in 120 quantile-spaced bins, and each bin contains the same number of observations (Calonico et al., 2015, Korting et al., 2023). Data are re-weighted by inverse probability weights (Bailey et al., 2020).

Figure A8: Comparison Between Postmasters and Their Neighbors: DID Estimates by Gender



The figure shows the differences in gainful employment between postmasters and their neighbors by gender. The sample is the 1920-1940 linked data of native-born White people aged between 18 and 65 who lived in neighborhoods with at least one postmaster. The subfigure above (below) shows the comparison between postmasters appointed before (after) the 1933 presidential transition and their neighbors. Each dot plots the DID coefficient from a separate regression that restricts the sample to postmasters appointed within X days of the 1933 presidential transition date (March 4, 1933). Neighborhood and education fixed effects are included.

Figure A9: Civil Service Exams Requirements for Postmasters

Subjects.	Weights.
1. Accounts and arithmetic (this test includes a simple statement of a postmaster's monthly money-order account in a prepared form, furnished the candidate in the examination, and a few problems comprising addition, subtraction, multiplication, division, percentage, and their business applications).....	3
2. Penmanship (a test of ability to write legibly, rated on the specimen shown in the subject of letter writing).....	1
3. Letter writing (this subject is intended to test the candidate's ability to express himself intelligently in a business letter on a practical subject).....	1
4. Business training, experience and fitness (under this subject, full and careful consideration is given to the candidate's business training and experience. The rating is based upon the candidate's sworn statements of his personal history, as verified after inquiry by the commission. It must be clearly shown that the candidate has demonstrated ability in meeting and dealing satisfactorily with the public).....	5
Total.....	10

2. The money-order transactions at Avon, Mass., post office for the month of May, 1914, were as follows:

Money-order fund on hand May 1, \$18. May 1, transferred from postal account to money-order account, \$27. May 2, paid money order, \$39.06. May 3, issued money order for \$49.50. May 5, issued money order, \$80.91. May 6, paid money order, \$7.29. May 7, issued money order, \$18.27. May 8, paid money order, \$27.81. May 9, issued money order, \$63. May 10, paid money order, \$19.80. May 12, paid money order, 81 cents. May 13, issued money order, \$4.77. May 14, paid money order, \$9.27. May 15, issued money order, \$29.07. May 16, paid money order, \$9.72. May 17, issued money order, \$9.72. May 19, issued money order, \$57.24. May 20, paid money order, 99 cents. May 21, issued money order, 72 cents. May 22, paid money order, \$45. May 23, issued money order, \$36. May 24, paid money order, \$2.97. May 26, paid money order, \$7.29. May 27, issued money order, \$72. May 28, paid money order, \$9.72. May 29, issued money order, \$4.59. May 30, postmaster deposited in the United States depository to the credit of the Post Office Department \$90, and received a certificate of deposit. May 31, issued money order, \$46.89. May 31, postmaster credited himself for errors as per auditor's circular, \$1.62.

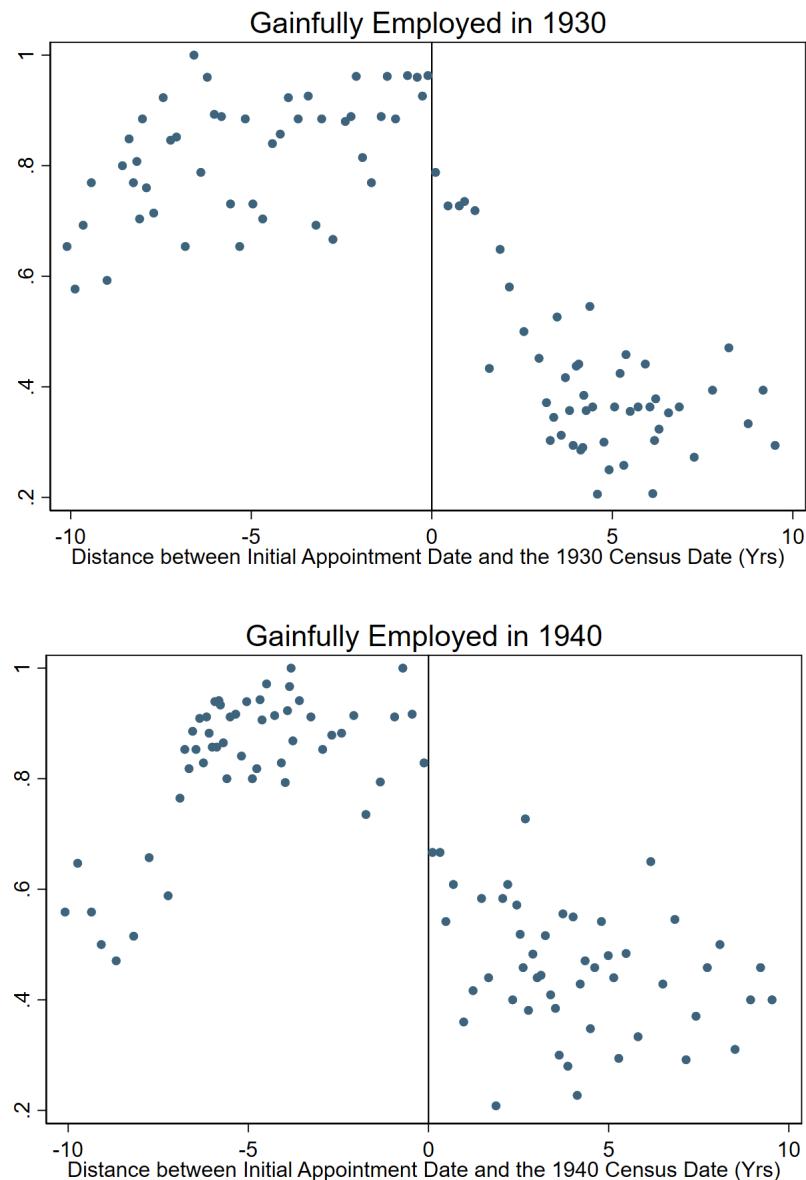
Make an itemized statement of the postmaster's money-order account in the form provided, and balance and close the statement.

Schedule of fees over and above the amount of the order which the postmaster must collect from the public for the Government on issue of money orders.

For orders from \$0.01 to \$2.50	3 cents.	For orders from \$30.01 to \$40.00	15 cents.
For orders from \$2.51 to \$5.00	5 cents.	For orders from \$40.01 to \$50.00	18 cents.
For orders from \$5.01 to \$10.00	8 cents.	For orders from \$50.01 to \$60.00	20 cents.
For orders from \$10.01 to \$20.00	10 cents.	For orders from \$60.01 to \$75.00	25 cents.
For orders from \$20.01 to \$30.00	12 cents.	For orders from \$75.01 to \$100.00	30 cents.

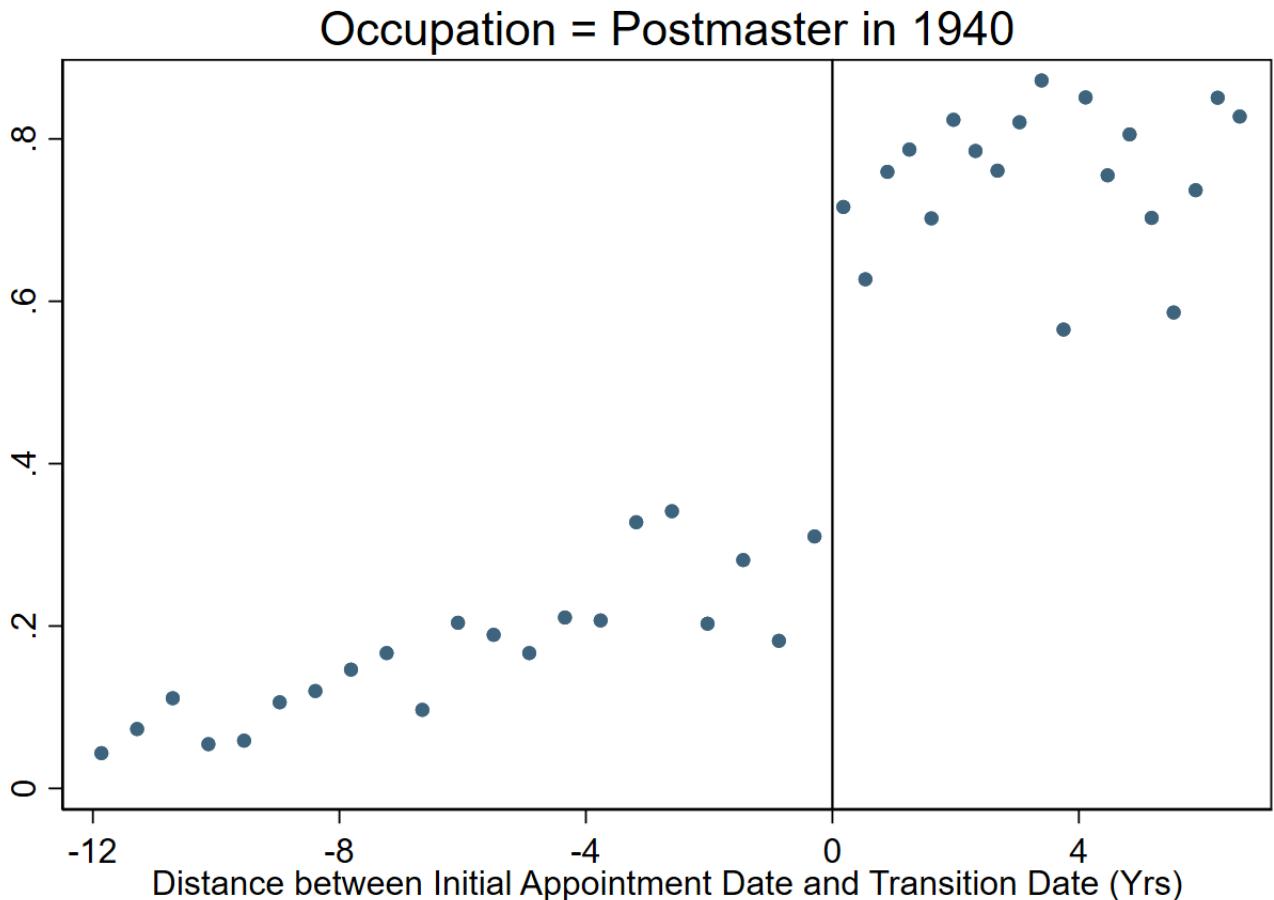
The figure shows the requirement for postmasters in charge of Class 3 post offices and an example question that asks the candidates to calculate the fees associated with money orders received in a specific post office (United States Civil Service Commission, 1916).

Figure A10: RD Results on Gainful Employment for Women Postmasters Appointed Just Before and After the 1930 and 1940 Census Dates



The figure shows RD results on gainful employment for women postmasters appointed just before and after the 1930 and 1940 census dates, and the RD estimates are -0.141 (s.e.=0.05) in 1930 and -0.239 (s.e.=0.07) in 1940. The vertical dashed line indicates the census date. Those on the left side of the vertical line were appointed before the census was taken, and those on the right side were appointed after the census was taken (N=2,867 in 1930 and N=2,954 in 1940). Data are plotted in 100 quantile-spaced bins, and each bin contains the same number of observations (Calonico et al., 2015, Korting et al., 2023). Data are re-weighted by inverse probability weights (Bailey et al., 2020).

Figure A11: Probability of Reporting Postmaster as One's Occupation in the 1940 Census



The figure shows whether women postmasters appointed before and after the 1933 presidential transition date reported “postmaster” as their occupation in the 1940 census. The sample includes women postmasters appointed between 1921 and 1939 and linked to the 1940 census. The running variable is the distance between the initial appointment date and the presidential transition date (March 4, 1933). Data are plotted in 40 quantile-spaced bins, and each bin contains the same number of observations (Calonico et al., 2015, Kortting et al., 2023). Data are re-weighted by inverse probability weights (Bailey et al., 2020).

Table A1: Fuzzy RD Estimates - 1940 Labor Market Outcomes of Postmasters Appointed Just Before and After the 1933 Presidential Transition

	(1) Gainfully Employed	(2) Family Worker	(3) Self- Employed	(4) Weeks Worked	(5) Hours Worked
<i>Panel A: Fuzzy RD Estimates on Women Postmasters</i>					
RD Estimate	0.779** (0.24)	-0.042 (0.06)	-0.089 (0.17)	50.641*** (11.55)	32.864** (12.29)
N Total	2464	2464	2464	2464	2464
<i>Panel B: Fuzzy RD Estimates on Male Postmasters</i>					
RD Estimate	0.015 (0.05)	-0.018 (0.02)	-0.693*** (0.16)	4.200 (3.92)	8.819 (8.45)
N Total	8337	8337	8337	8337	8337

The table reports Fuzzy RD estimates on 1940 labor market outcomes for postmasters appointed just before and after the 1933 presidential transition. The running variable is the distance between the initial appointment date and the presidential transition date (March 4, 1933). The first stage regresses a dummy variable that equals 1 if one reported postmasters as their occupation in 1940 on the running variable (see a visual representation of the first stage in [Figure A11](#)). The outcome variables of the reduced form equation are whether one was gainfully employed/an unpaid family worker/self-employed in 1940, weeks worked in 1939, and weekly hours worked in 1940. It additionally reports clustered standard errors by the running variable, the number of effective observations, and the optimal bandwidth (Lee and Card, [2008](#), M. D. Cattaneo et al., [2019](#)). Data are re-weighted by inverse probability weights (Bailey et al., [2020](#)). * for $p < 0.05$, ** for $p < 0.01$, *** for $p < 0.001$

Table A2: Heterogeneous Effects by Marital Status - 1940 Labor Market Outcomes of Women Postmasters Appointed Before the 1933 Presidential Transition

	(1) Gainfully Employed	(2) Family Worker	(3) Self- Employed	(4) Weeks Worked	(5) Hours Worked
<i>Sample: Women Postmasters Appointed Between 1921 and 1933</i>					
<i>Married_i</i>	-0.248* (0.11)	0.035 (0.04)	-0.046 (0.06)	-9.220 (5.44)	-8.555 (5.75)
N	1018	1018	1018	1018	1018

The table reports the coefficient of Married_i on 1940 labor market outcomes for women postmasters appointed between 1921 and the 1933 presidential transition. The detailed specification is explained in [Section 12.6](#). The outcome variables of the reduced form equation are whether one was gainfully employed/an unpaid family worker/self-employed in 1940, weeks worked in 1939, and weekly hours worked in 1940. County fixed effects, initial appointment year fixed effects, and post office size fixed effects are included. Standard errors are clustered at the county level. Data are re-weighted by inverse probability weights (Bailey et al., [2020](#)). * for $p < 0.05$, ** for $p < 0.01$, *** for $p < 0.001$

Table A3: Heterogeneous Effects by Tenure Length - 1940 Labor Market Outcomes of Women Postmasters Appointed Before the 1933 Presidential Transition

	(1) Gainfully Employed	(2) Family Worker	(3) Self- Employed	(4) Weeks Worked	(5) Hours Worked
<i>Sample: Women Postmasters Appointed Between 1921 and 1933</i>					
$Tenure_i$	0.019** (0.01)	-0.000 (0.00)	-0.003 (0.00)	0.912** (0.32)	1.001** (0.30)
N	1007	1007	1007	1007	1007

The table reports the coefficient of $Tenure_i$ on 1940 labor market outcomes for women postmasters appointed between 1921 and the 1933 presidential transition. The detailed specification is explained in [Section 12.6](#). The outcome variables of the reduced form equation are whether one was gainfully employed/an unpaid family worker/self-employed in 1940, weeks worked in 1939, and weekly hours worked in 1940. County fixed effects, initial appointment year fixed effects, and post office size fixed effects are included. Standard errors are clustered at the county level. Data are re-weighted by inverse probability weights ([Bailey et al., 2020](#)). * for $p < 0.05$, ** for $p < 0.01$, *** for $p < 0.001$

Table A4: DID Estimates - Compare Women Postmasters with Male Postmasters

	(1) Gainfully Employed	(2) Self Employed
DID Estimate	-0.335*** (0.03)	-0.234*** (0.02)
County FE	X	X
Initial App Year FE	X	X
Post Office Size FE	X	X
N	5565	5565

The table reports DID estimates on labor market outcomes for female and male postmasters appointed before the 1933 presidential transition, based on the equation in [Section 12.7](#). The outcome variables are whether one was gainfully employed and whether one was self-employed. County fixed effects, initial appointment year fixed effects, and post office size fixed effects are included. Individual-level control variables age, age square, marriage, farm and urban status, and years of schooling are included. Standard errors are clustered at the county level. Data are re-weighted by inverse probability weights ([Bailey et al., 2020](#)). * for $p < 0.05$, ** for $p < 0.01$, *** for $p < 0.001$

Table A5: Counterfactual RD Estimates by Different Levels of Severity of the Great Depression - 1940 Labor Market Outcomes of Women Postmasters Appointed Just Before and After the 1933 Presidential Transition

	(1) Gainfully Employed	(2) Family Worker	(3) Self- Employed	(4) Weeks Worked	(5) Hours Worked
<i>Panel A: Sales Loss Per Capita = 10th Percentile</i>					
RD Estimate	0.189 (0.13)	-0.014 (0.02)	-0.017 (0.05)	7.676 (6.29)	4.462 (7.23)
<i>Panel B: Sales Loss Per Capita = 25th Percentile</i>					
RD Estimate	0.204 (0.12)	-0.018 (0.02)	-0.019 (0.05)	10.698 (5.98)	6.421 (6.94)
<i>Panel C: Sales Loss Per Capita = 50th Percentile</i>					
RD Estimate	0.242** (0.09)	-0.024 (0.02)	-0.021 (0.05)	15.705** (5.43)	10.049 (6.35)
<i>Panel D: Sales Loss Per Capita = 75th Percentile</i>					
RD Estimate	0.311** (0.10)	-0.031 (0.02)	-0.030 (0.05)	22.045*** (4.62)	14.496** (5.46)
<i>Panel E: Sales Loss Per Capita = 90th Percentile</i>					
RD Estimate	0.381** (0.13)	-0.035 (0.02)	-0.044 (0.05)	28.554*** (4.76)	21.065*** (4.66)
N	2464	2464	2464	2464	2464

The table reports counterfactual RD estimates by different levels of severity of the Great Depression. Specifically, the RD design estimates the differences in 1940 labor market outcomes for women postmasters appointed just before and after the 1933 presidential transition, assuming everyone in the sample experienced sales loss per capita at the 10th, 25th, 50th, 75th and 90th percentile. The running variable is the distance between the initial appointment date and the presidential transition date (March 4, 1933). The outcome variables are whether one was gainfully employed/an unpaid family worker/self-employed in 1940, weeks worked in 1939, and weekly hours worked in 1940. Standard errors are clustered by the running variable (Lee and Card, 2008). Data are re-weighted by inverse probability weights (Bailey et al., 2020). * for $p < 0.05$, ** for $p < 0.01$, *** for $p < 0.001$

Table A6: RD Estimates - 1940 Household Outcomes of Postmasters Appointed Just Before and After the 1933 Presidential Transition

	(1) # Children	(2) # Children Under 5	(3) # Grand Children	(4) # Parents	(5) # Servants
RD Estimate	-0.048 (0.05)	0.076 (0.21)	-0.099 (0.09)	0.108 (0.06)	0.049 (0.06)
N	1933	1933	1933	1933	1933

The table reports RD estimates on 1940 household outcomes for postmasters appointed just before and after the 1933 presidential transition. The sample is restricted to married women who is the head/spouse of the household. The running variable is the distance between the initial appointment date and the presidential transition date (March 4, 1933). The outcome variables are the number of children and children under 5, the number of grandchildren, the number of parents and parents-in-law, and the number of servants. Standard errors are clustered by the running variable (Lee and Card, 2008). Data are re-weighted by inverse probability weights (Bailey et al., 2020). * for $p < 0.05$, ** for $p < 0.01$, *** for $p < 0.001$