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

Sophie Li, ywl242@bu.edu

Boston University

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Introduction: Motivation

- Women's employment was heavily constrained historically
  - Marriage bars (Goldin, 1988, Goldin, 1990)
  - Social norms (Harris, 1978, Goldin, 2021)
- It is negatively affected by norms associated with motherhood today
  - Child penalty (Kleven et al., 2019, Kleven, 2023)
- Woman-friendly and family-friendly occupations could be the solution (Goldin and Katz, 2016, Mas and Pallais, 2017, Wiswall and Zafar, 2017)

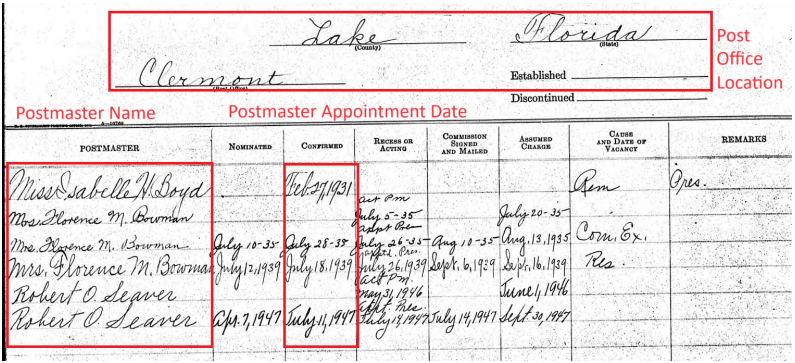
Introduction: Research Question and Historical Setting

- What is the effect of a woman-friendly occupation on women's employment?
  - Did more women become employed? Did they stay employed?
- Historical setting: Postmasters in the early 20th-century United States[1]
  - Open to married women
  - Flexible work environment
  - Equal pay and well-paid

[1] Postmaster = Manager of the local post office

Introduction: Data and Census Linking

- I collect a novel dataset on postmaster appointments between 1920 and 1940, "Record of Appointment of Postmasters, 1832-1971"
- I link postmasters to their 1920 and 1940 complete-count census records

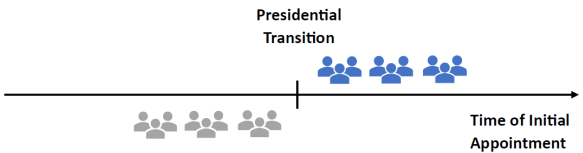


Introduction: Preview of Results ☺

- Did more women become employed thanks to the woman-friendly occupation?
- Postmaster jobs attracted qualified women who were not employed previously
  - Women postmasters had 11.7 years of education
  - 49% of women postmasters had a self-employed husband
  - However, only 31.7% of women were employed before postmaster appointments

Introduction: Preview of Results ☹

- Did women stay employed because of their valuable work experience?
- Postmasters offered few benefits for women's future employment beyond the appointed term
  - I take advantage of the fact that postmasters were presidential appointees
  - I explore presidential transitions as a natural experiment in RD



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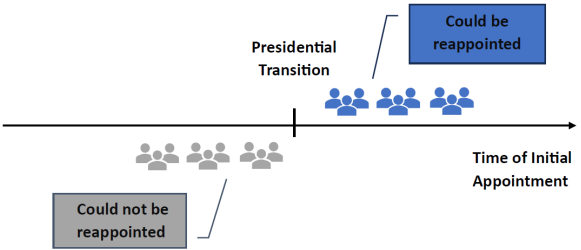

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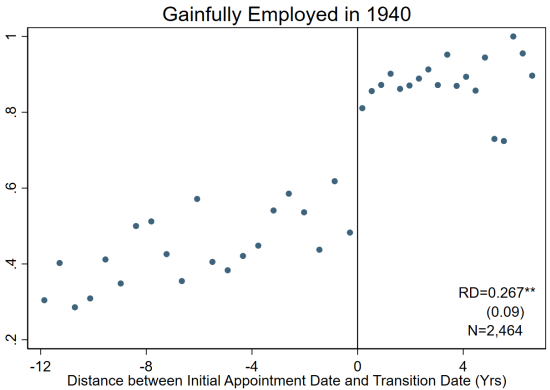


- Women experienced a 27 pp. reduction in the probability of employment three to four years after finishing the postmaster term

Introduction: Preview of Results ☹

- In addition, I compare women postmasters with their 1920 women neighbors
  - Diff-in-Diff design with education and neighborhood fixed effects
  - Women with postmaster work experience were not more likely to be employed in 1940 than their 1920 women neighbors who had never been postmasters

Introduction: Mechanisms

- Why did many women stop working?
- Suggestive evidence on the lack of employment opportunities for women
  - State-level discrimination against married women Slide
  - The severity of the Great Depression Slide
- Fertility and home production cannot explain the results

Introduction: Contributions

- This paper documents women's historical employment
  - Women's employment was often invisible due to data limitations (Goldin, 1990, Folbre, 1995, Burnette, 2021)
  - Adds to a growing literature - women in agriculture (Withrow, 2021), women telephone operators (Feigenbaum and Gross, 2021), and women family workers (Chiswick and Robinson, 2021)

Introduction: Contributions

- This paper contributes to the discussion about woman-friendly occupations
  - Although conventional wisdom suggests woman-friendly occupations are good for women's employment (Goldin and Katz, 2016, Mas and Pallais, 2017, Wiswall and Zafar, 2017)
  - Empirical evidence on the short-term and long-term benefits of such occupations is scarce

Introduction: Contributions

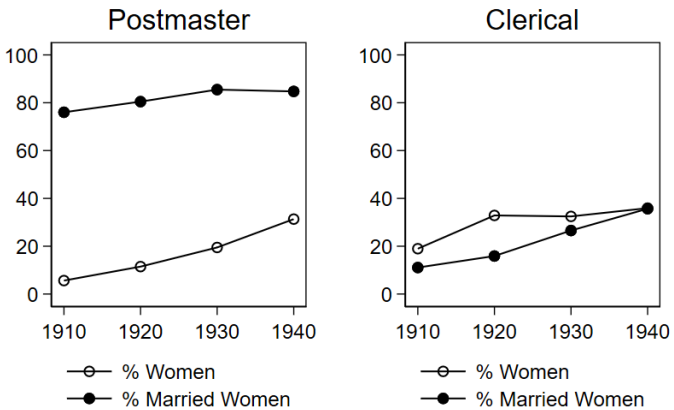
- This paper is closely related to the job loss literature
  - I focus on the effect of job loss among women rather than men (Maxwell and D'Amico, 1986, Crossley et al., 1994, Kunze and Troske, 2015, Illing et al., 2021, Meekes and Hassink, 2022)
  - I use presidential transitions as natural experiments to alleviate concerns about the potential adverse selection of job losers (Jacobson et al., 1993)

Structure of the Talk

- Historical Background
  - Postmaster as a Woman-Friendly Occupation
  - Postmasters as Presidential Appointees
- Data and Descriptive Statistics
  - Postmaster Appointment Data and Census Linking
  - Selection of Women Postmasters
- RD Results: Women Experienced a Large Reduction in Employment
- DID Results: Women Postmasters Not More Likely Employed Than Others
- Mechanisms: Lack of Employment Opportunities for Women

Background: Postmaster as a Woman-Friendly Occupation

- No explicit rule against hiring women or married women



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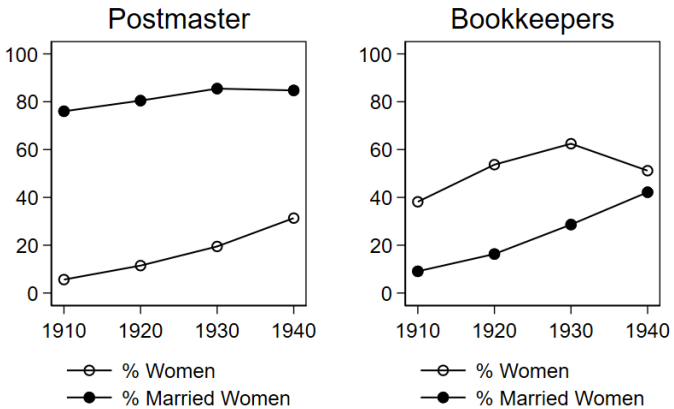

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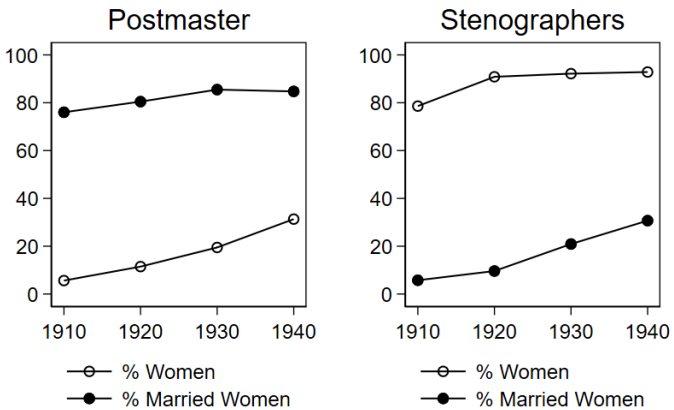

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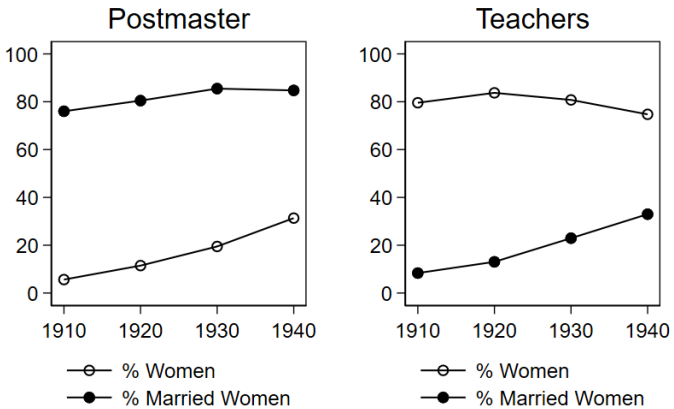

Background: Postmaster as a Woman-Friendly Occupation

- Flexible work environment - inside a store or one's own home

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Background: Postmaster as a Woman-Friendly Occupation

- Differentiates women postmasters from other working women in factories and mills
- Postmasters were "clean and honorable positions" that came in close contact with the home and family (Cortelyou, 1906)

Background: Postmaster as a Woman-Friendly Occupation

- Equal pay to women Figure
- Well-paid job - At least $1,100 a year
  - Average wage for women with high school degrees was $650 in 1940

Classified List of Post Offices, With Salaries 877

CONNECTICUT—Continued		
Office	Class	Salary
Glastonbury..... GV	2	$2,700
Glenville.....	3	2,000
Granby.....	3	1,600
Greens Farms.....	2	2,400
Greenwich.....G F	1	5,000
Guilford.....F	2	2,400
Haddam.....	3	1,600
Hartford.....G F	1	7,000
Hazardville.....	3	1,700
Higganum.....	3	1,800
Ivoryton.....	2	2,500
Jewett City.....F	2	2,600
Kensington.....V	2	2,500
Kent.....	3	2,300
Killingly.....	3	1,800
Lakeville.....	2	2,500
Litchfield.....	2	2,700
Madison.....	2	2,500
Manchester.....G F	1	3,800
Mansfield Depot.....	3	1,400
Meriden.....G F	1	3,900

CONNECTICUT—Continued		
Office	Class	Salary
South Norwalk..G F	1	$3,800
Southport.....	2	2,500
South Willington ...	3	1,700
Springdale.....F	2	2,500
Stafford Springs...F	2	2,500
Stamford.....G F	1	4,500
Stepney Depot.....	3	1,800
Sterling.....	3	1,500
Stonington.....F	2	2,500
Stony Creek.....	3	1,600
Suffield.....V	3	2,200
Taftville.....	3	2,100
Terryville.....	2	2,500
Thomaston.....G F	2	2,700
Thompson.....	3	1,500
Thompsonville..G F	2	2,900
Torrington.....G F	1	3,600
Uncasville.....	3	1,900
Unionville.....V	2	2,500
Versailles.....	3	1,600
Voluntown.....	3	1,300

DISTRICT OF COLUMBIA		
Office	Class	Salary
Washington.....G F	1	$10,000
FLORIDA		
Alachua.....	3	1,900
Altamonte Springs...	3	1,200
Altha.....	3	1,400
Apalachicola....G F	2	2,400
Apopka.....	2	2,400
Arcadia.....G F	2	2,600
Archer.....	3	1,400
Atlantic Beach.....	3	1,800
Auburndale.....	2	2,400
Avon Park.....	2	2,500
Babson Park.....	3	1,700
Bagdad.....	3	1,200
Baker.....	3	1,300
Bartow.....G F	2	2,800
Bay Harbor.....	3	1,700
Bay Pines.....	3	1,800
Belleair.....	3	1,100

Background: Postmaster as a Woman-Friendly Occupation

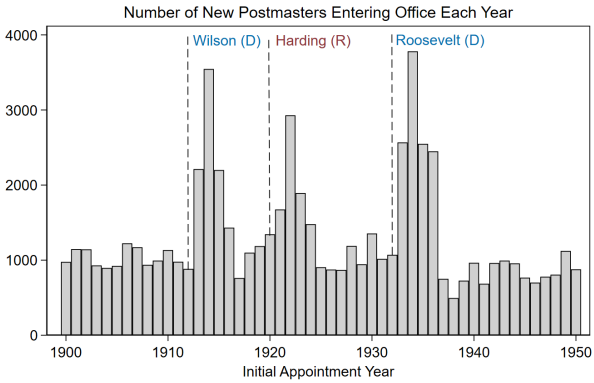
- No rule against hiring married women
- Flexible and clean work environment
- Equal pay and well-paid

Married Women's Appointment

Background: Postmasters as Presidential Appointees

- Postmasters were presidential appointees - significant roles under the spoils system
  - Inserted resident's mail with campaign materials (Blevins, 2021)
  - Endeared "themselves to members of the House of Representatives through their regular, personal contact with a remote segment of the electorate" (Kernell and McDonald, 1999)
- Postmasters were the largest group of presidential appointees (John 1988)
  - 76.6% of presidential appointments between 1819 and 1917 (Blevins 2021)
- Presidents selected postmasters who belonged to their political party
  - The politics involved in postmaster appointments was never a secret (Farley 1938)

Background: Postmasters as Presidential Appointees



- Postmasters were rarely reappointed if the party of the president changed Figure
  - Appointed under 4-year terms

Background: Postmasters as Presidential Appointees

- Candidates for postmasters were required to take civil service exams
- The President and the Postmaster General picked one of the top three scorers
  - A second exam was often held if the President failed to find a person from his own party (United States Government Printing Office, 1935)

Background: Postmasters as Presidential Appointees

- The civil service exam tested one's arithmetic and writing skills

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

Background: Postmasters as Presidential Appointees

- Example question to test one's arithmetic skills

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.

Background: Postmasters as Presidential Appointees

- Business training required - if the opening position was for a large post office Figure

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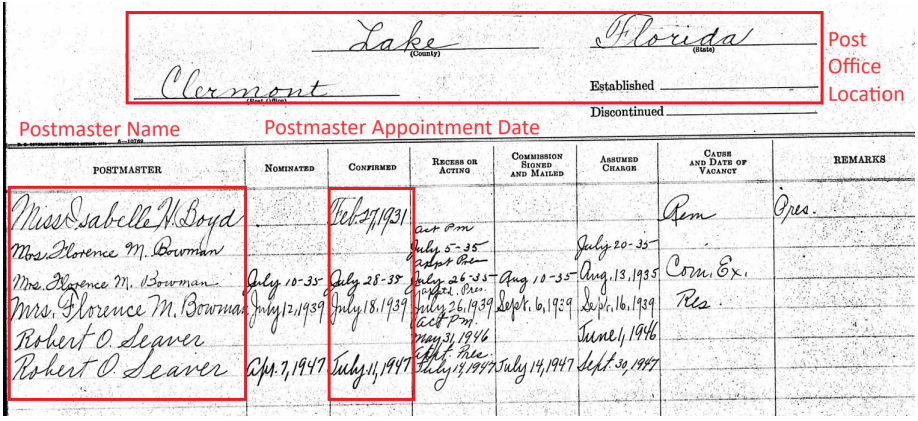

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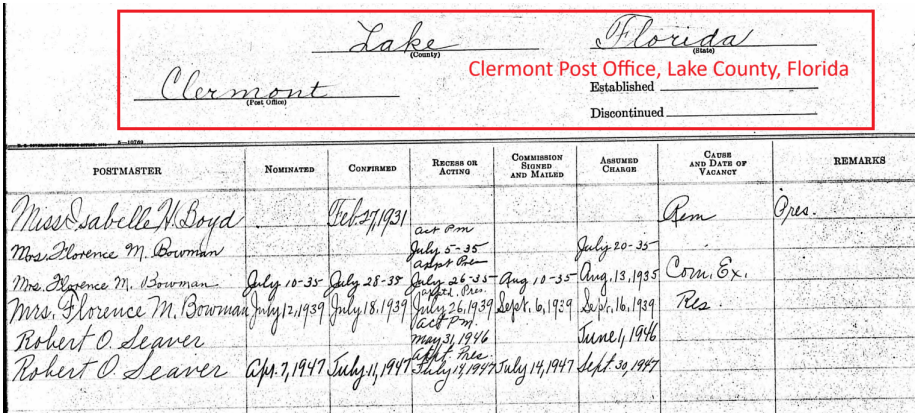

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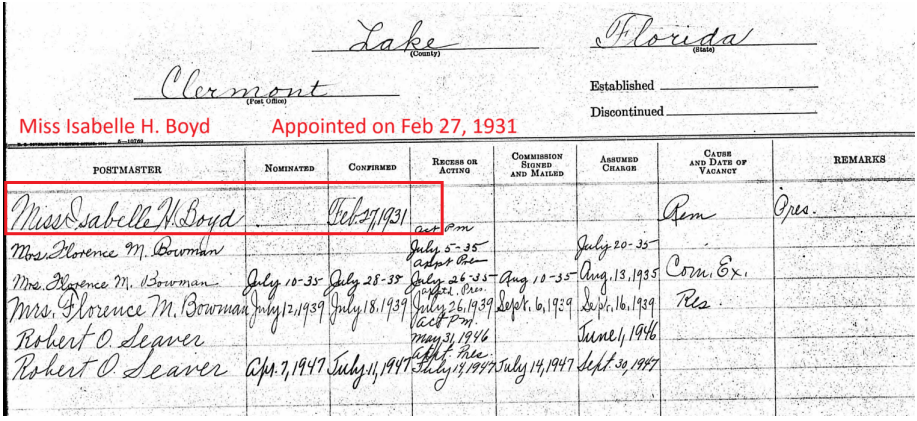
Lake (County) Florida (State)
Clermont (Post Office)
Established
Discontinued
Miss Isabelle H. Boyd Appointed on Feb 27, 1931

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. pm			Rem	Pres.
Mrs. Florence M. Bowman			July 5-35		July 20-35		
			adpt. Pres.				
Mrs. Florence M. Bowman	July 10-35	July 28-35	July 26-35	Aug. 10-35	Aug. 13, 1935	Com. Ex.	
Mrs. Florence M. Bowman	July 12, 1939	July 18, 1939	adpt. Pres. July 26, 1939	Sept. 6, 1939	Sept. 16, 1939	Res.	
			Acct. P.M.				
Robert O. Seaver			May 31, 1946		June 1, 1946		
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Robert O Seaver	Apr. 7, 1947	July 11, 1947	July 13, 1947	July 14, 1947	Sept 30, 1947		

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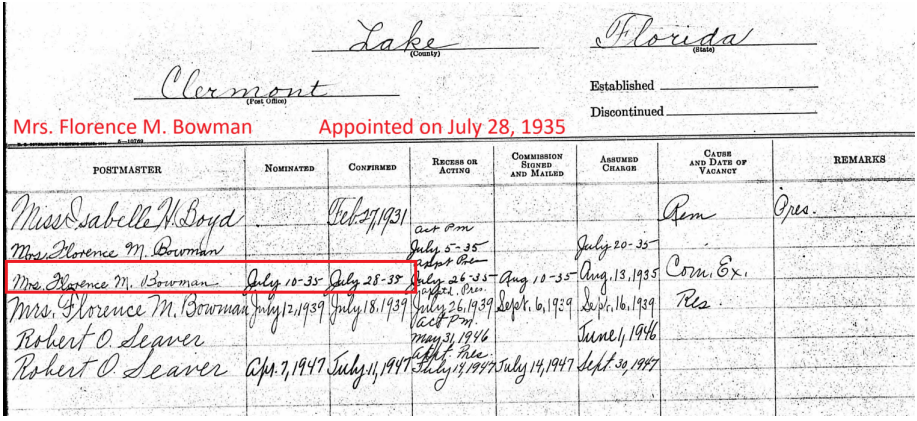
Lake (County) Florida (State)

Clermont (Post Office)

Established

Discontinued

Mrs. Florence M. Bowman Appointed on July 28, 1935

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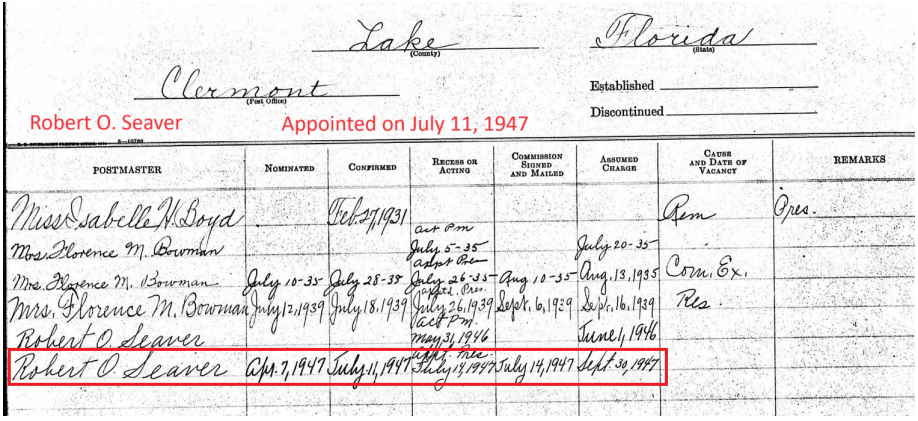
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Discontinued

Robert O. Seaver Appointed on July 11, 1947

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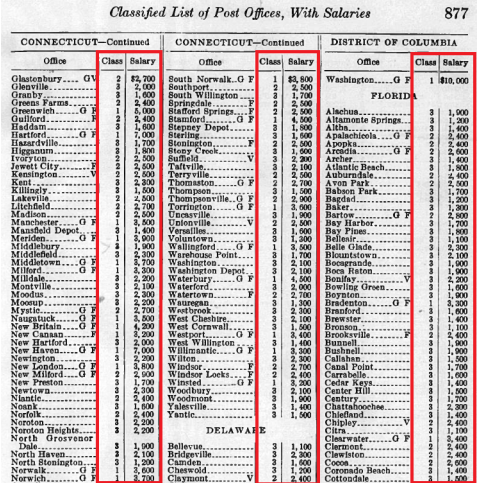
Data: US Official Postal Guide

- Post office size and postmaster salary



Classified List of Post Offices, With Salaries 877

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Glenville	3	2,000
Granby	3	1,600
Greens Farms	2	2,400
Greenwich G	1	5,000
Guilford F	2	2,400
Haddam	3	1,600
Hartford G	1	7,000
Hazardville	3	1,700
Higganum	3	1,800
Ivoryton	2	2,500
Jewett City F	2	2,600
Kensington V	2	2,500
Kent	3	2,300
Killingly	3	1,500
Lakeville	2	2,600
Litchfield	2	2,700
Madison	2	2,500
Manchester G F	1	3,500
Mansfield Depot	3	1,400
Meriden G F	1	3,000
Middlebury	3	1,900
Middlefield	3	2,300
Middletown G F	1	5,700
Milford G F	1	3,300
Milldale	3	2,200
Montville	3	2,100
Moodus	3	2,300
Moosup	3	2,200
Myrtle G F	2	2,700
Naugatuck G F	1	3,500
New Britain G F	1	4,200
New Canaan	1	2,200
New Hartford	3	2,000
New Haven G F	1	7,000
Newington	3	2,200
New London G F	1	3,800
New Milford G F	2	2,600
New Preston	3	1,700
Newtown	3	2,300
Niantic	2	2,400
Nosak	3	1,600
Norfolk	2	2,400
Noroton	3	2,200
Noroton Heights	3	2,200
North Grosvenor Dale	3	1,900
North Haven	3	2,100
North Stonington	3	1,200
Norwalk G F	1	3,600
Norwich G F	1	3,700

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Stafford Springs F	2	2,500
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Stepney Depot	3	1,800
Sterling	3	1,600
Stonington F	2	2,500
Stony Creek	3	1,600
Suffield V	3	2,200
Taftville	3	2,100
Terryville	2	2,500
Thomaston G F	2	2,700
Thompson	3	1,500
Thompsonville G F	2	2,900
Torrington G F	1	3,600
Uncasville	3	1,900
Unionville V	2	2,800
Versailles	3	1,500
Voluntown	3	1,300
Wallingford G F	1	3,500
Warehouse Point	3	1,700
Washington	3	2,100
Washington Depot	3	2,100
Waterbury G F	1	4,500
Waterford	3	2,000
Watertown F	2	2,700
Wauregan	3	1,300
Westbrook	3	2,300
West Cheshire	3	2,100
West Cornwall	3	1,500
West Haven G F	1	3,400
West Willington	3	1,400
Whitneyville G F	1	3,300
Wilton	3	2,300
Windsor F	2	2,700
Windsor Locks F	2	2,400
Winsted G F	1	3,200
Woodbury	3	2,100
Woodmont	3	1,900
Yalesville	3	1,400
Yantic	3	1,500
DELAWARE		
Bellevue	3	1,100
Bridgeville	3	2,300
Camden	3	1,600
Cheswold	3	1,200
Claymont V	2	2,400

DISTRICT OF COLUMBIA		
Office	Class	Salary
Washington G F	1	$10,000
FLORIDA		
Alachua	3	1,900
Altamonte Springs	3	1,200
Altha	3	1,400
Apalachicola G F	2	2,400
Apopka	2	2,400
Arcadia G F	2	2,600
Archer	3	1,400
Atlantic Beach	3	1,800
Auburndale	2	2,400
Avon Park	2	2,500
Babson Park	3	1,700
Bagdad	3	1,200
Baker	3	1,300
Bartow G F	2	2,800
Bay Harbor	3	1,700
Bay Pines	3	1,800
Belleair	3	1,100
Belle Glade	3	2,300
Blountstown	3	2,100
Boca Grande	3	1,900
Boca Raton	3	1,900
Bonifay V	3	2,200
Bowling Green	3	1,600
Boynton	3	1,900
Bradenton G F	1	3,300
Branford	3	1,600
Brewster	3	1,400
Bronson	3	1,100
Brooksville F	2	2,400
Bunnell	3	1,900
Bushnell	3	1,900
Calishan	3	1,500
Canal Point	3	1,700
Carrabelle	3	1,600
Cedar Keys	3	1,400
Center Hill	3	1,900
Century	3	1,700
Chattahoochee	3	2,300
Chiefland	3	1,400
Chipley V	2	2,400
Clira	3	1,100
Clearwater G F	1	3,400
Clermont	2	2,400
Clewiston	2	2,400
Cocoa	2	2,500
Coronado Beach	3	1,400
Cottondale	3	1,600

Census Linking

- A conservative linking criterion that requires an exact and unique match on
  - First name and last name
  - County and state of residence
- Women's prefixes and marital status should match
  - "Mrs" indicates someone had been married
  - "Miss" indicates someone was never married

Census Linking

- The average linking rate is 37.7% for 1920 and 33.0% for 1940
  - Pre-appointment characteristics in 1920
  - Post-appointment characteristics in 1940
- The linked data are weighted to be representative of the original data (Bailey et al., 2020)
  - Weights depend on post office size, postmaster salary, initial appointment year, characteristics of postmaster names

Reminder: Research Question

- What is the effect of a woman-friendly occupation on women's employment?
  - Did more women become employed thanks to the postmaster job?

Predetermined Characteristics of Women Postmasters

- Women postmasters were qualified but not gainfully employed previously

	(1) Women Postmasters	(2) All Women
Years of Education	11.7	9.0
Husband Self-Employed in 1920 (%)	48.7	34.9
Self-Employed in 1920 (%)	1.9	1.5
Gainfully Employed in 1920 (%)	31.7	25.6

Predetermined Characteristics of Women Postmasters

- Women postmasters were predominantly White, native-born, and rural Appendix

	(1) Women Postmasters	(2) All Women
White in 1920 (%)	98.8	89.9
Native Born in 1920 (%)	98.3	82.4
Urban in 1920 (%)	12.0	56.8
Farm Household in 1920 (%)	22.1	24.6

Structure of the Talk

- Historical Background
  - Postmaster as a Woman-Friendly Occupation
  - Postmasters as Presidential Appointees
- Data and Descriptive Statistics
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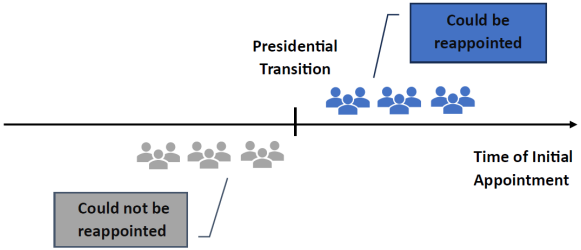
Reminder: Research Question

- What is the effect of a woman-friendly occupation on women's employment?
  - Did they stay employed because of their work experience?
- I examine what happened to women's future employment after they finished the appointed term

Identification: Regression Discontinuity

- I take advantage of the fact that postmasters were presidential appointees
  - Postmasters were rarely reappointed after the party of the president changed
- I explore presidential transitions as a natural experiment in RD



- Identification: regression discontinuity design
  - 1940 outcomes of women appointed just before and after the 1933 transition

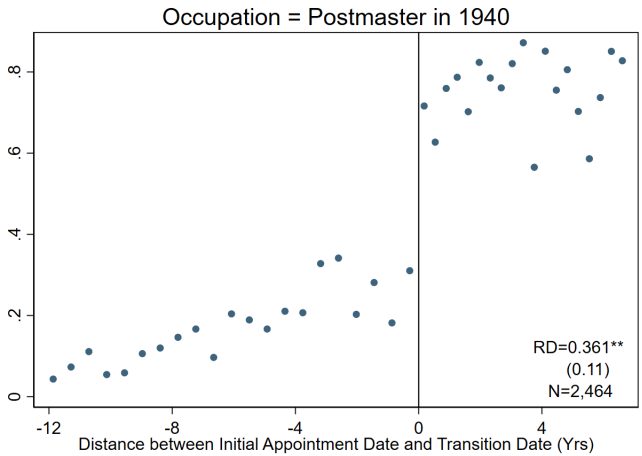
Identification: Regression Discontinuity

- Formally, the RD treatment effect is expressed as

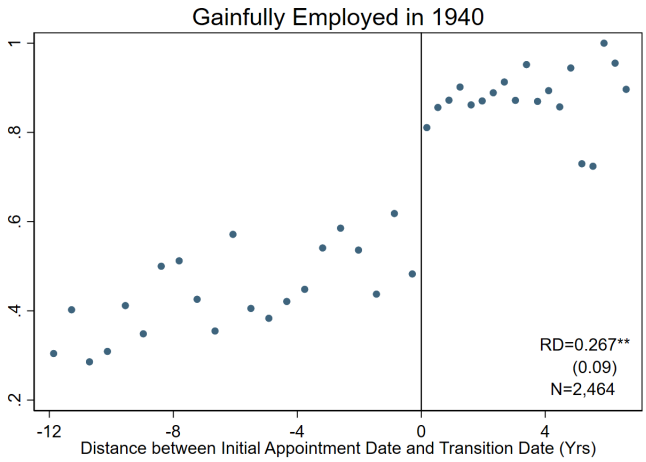
$$E[Y_i(1) - Y_i(0)|X_i = X_0]$$

  - Y_i is the economic outcome for individual i in 1940, X_0 is the presidential transition date (March 4th, 1933) and X_i is the initial appointment date
  - The running variable is the distance between the initial appointment date and the presidential transition date

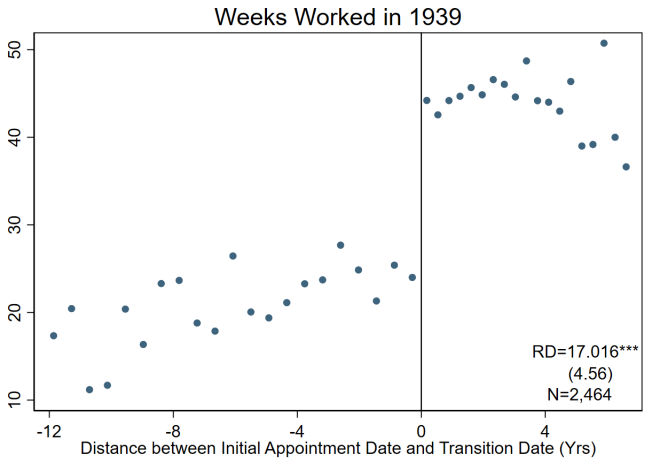
RD: "First-Stage" Results for Women



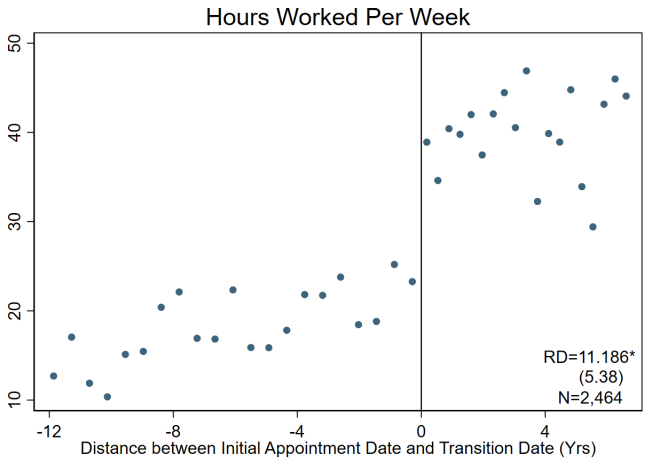
RD Results: Women's Gainful Employment in 1940



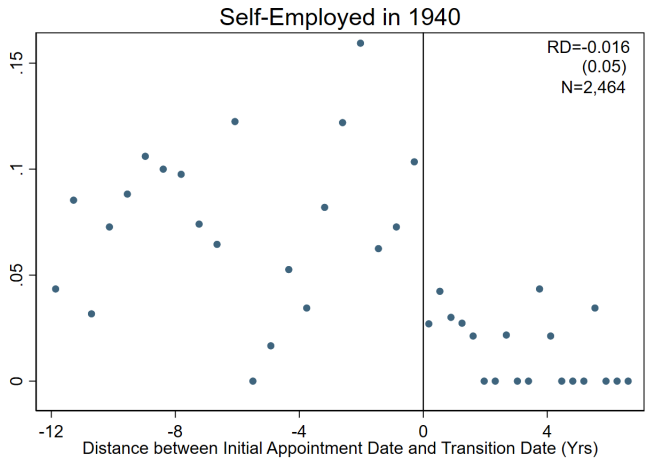
RD Results: Women's Labor Supply in 1939



RD Results: Women's Labor Supply in 1940



RD Results: Women's Self-Employment in 1940



Is the RD Result Driven by Selection?

- Is the RD result driven by selection issues of postmasters appointed just before the transition?
  - For example - Differences between Republicans and Democrats
- To alleviate concerns about negative selection, I show that
  - Many observed characteristics are balanced
  - Relative to men appointed under the same circumstances, women postmasters experienced a larger reduction in employment

Many observed characteristics are balanced

Figures

	(1) Number of Obs	(2) RD Estimate	(3) Standard Errors
Variables from Sample of Women Postmasters			
Republican Vote Share in 1928 %	5728	2.013	(3.21)
Severity of the Great Depression	5728	1.084	(16.62)
Linked to the 1940 Census	5728	0.025	(0.10)
Linked to the 1920 Census	5728	0.120	(0.07)
Father's OCCScore Rank	5728	0.012	(0.01)

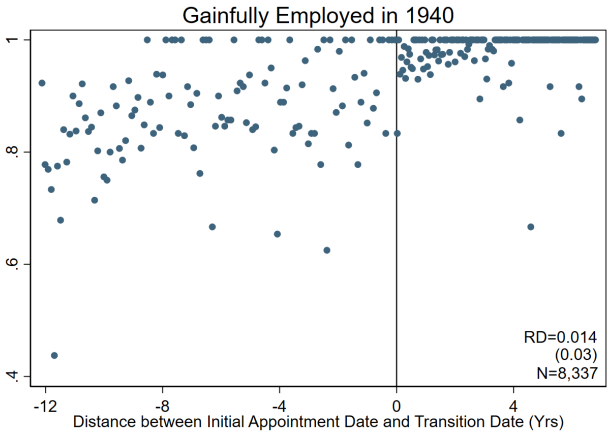
Many observed characteristics are balanced

	(1) Number of Obs	(2) RD Estimate	(3) Standard Errors
Variables from Linked Sample of Women Postmasters			
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)
Years of Education	2464	0.969	(0.74)
Age at Appointment	2464	-3.022	(2.32)

Is the RD Result Driven by Selection?

- Is the RD result driven by negative selection among postmasters appointed just before the transition?
  - For example - Differences between Republicans and Democrats
- To alleviate concerns about negative selection, I show that
  - Relative to men appointed under the same circumstances, women postmasters experienced a larger reduction in employment

RD Results: Men's Gainful Employment in 1940



Back

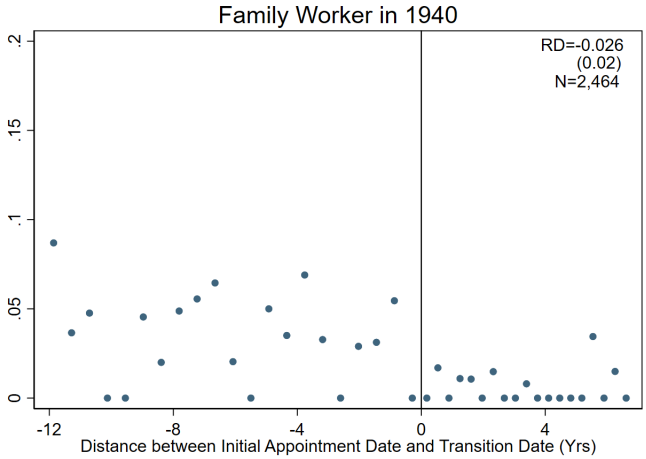
Selection Cannot Explain the Reduction in Employment

- Relative to men appointed under the same circumstances, women postmasters experienced a larger reduction in employment
  - The gender difference in RD estimates is 25.2 pp. (s.e.=0.10) Slide
  - Alternatively, I implement a DID design that shows women were 33.5 pp. less likely to be employed than men in 1940 (s.e.=0.03) Slide
- Women's results are likely driven by gender-specific factors

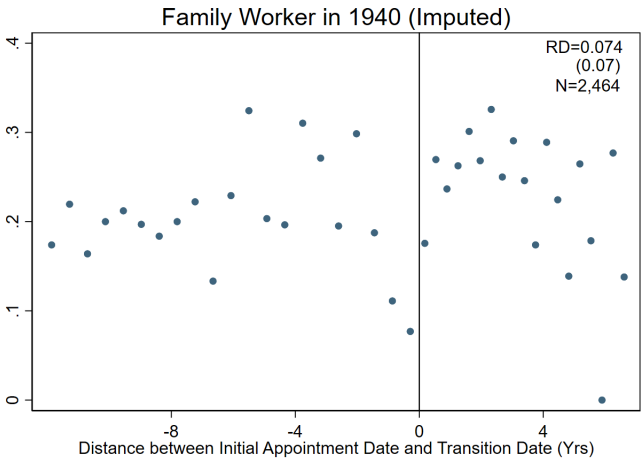
Is the RD Result Driven by Undercounting Women's Employment?

- Is the RD result driven by undercounting women's employment?
  - For example - Women transitioned to become family workers
  - Family workers include 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)"
  - Fortunately, the 1940 census instructions explicitly state that unpaid family workers should be documented
  - An alternative measure is to include all family members as family workers if the household head is self-employed (Chiswick and Robinson, 2021)

RD Results: Women as Family Workers in 1940



RD Results: Women as Family Workers in 1940



RD Results Are Robust to Alternative Specifications

	(1) Gainfully Employed	(2) Family Worker	(3) Self-Employed	(4) Weeks Worked	(5) Hours Worked
Placebo Test					
RD Estimate	-0.077	-0.036	0.051	-3.887	-3.863
	(0.12)	(0.04)	(0.09)	(6.13)	(5.51)
N	2464	2464	2464	2464	2464
Donut RD dropping obs appointed after the 1932 election					
RD Estimate	0.237*	-0.045	-0.134	16.762***	11.293*
	(0.10)	(0.05)	(0.10)	(5.04)	(5.51)
N	2391	2391	2391	2391	2391

Additional Checks

RD Results in More Details

- RD Results in Table Forms Slide
- Fuzzy RD Results Slide
- Men's RD Results Slide
- DID Comparison Between Women and Men Slide
- Heterogeneous Results Among Women
  - Marital Status Slide
  - Tenure Slide

Structure of the Talk

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Did Women Postmasters Benefit from the Work Experience?

- The RD compares women
  - Who finished their postmaster term
  - Who were still postmasters
- However, women postmasters might still benefit from the working experience relative to women who had never been postmasters

Did Women Postmasters Benefit from the Work Experience?

- DID design that compares
  - Women postmasters appointed just before the 1933 Presidential Transition
  - Their 1920 (Pre-Treatment) women neighbors who had never been postmasters
    - Respondents documented on the same page of the microfilm were neighbors (Logan and Parman, 2017)
- A slight change in the datasets used here:
  - 1920-1940 linked sample of native-born White women aged 18-65 (Price, Buckles, Van Leeuwen, et al., 2019, Price, Buckles, Haws, et al., 2023)

Did Women Postmasters Benefit from the Work Experience?

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

- Y_{ihet} is the outcome for individual i with education e in neighborhood h in year t
- WPM_i is a dummy variable indicating women postmasters
- Neighborhood fixed effects γ_h + Education fixed effects γ_e

DID Estimates: Women Postmasters v.s. Women Neighbors

	(1) Gainfully Employed	(2) Self-Employed
WPM*Post	0.011	0.048
	(0.07)	(0.04)
WPM	0.110*	0.020
	(0.05)	(0.02)
Post	0.027	-0.003
	(0.04)	(0.02)
Education FE	X	X
Neighborhood FE	X	X
N	842	842

Structure of the Talk

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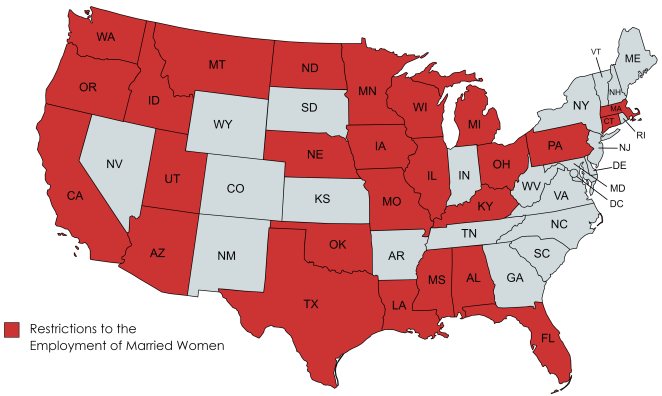
Why Did Many Women Stop Working?

- Suggestive evidence on the lack of labor market opportunities for women
  - State-level discrimination against married women
  - The severity of the Great Depression
- I further rule out the following mechanisms
  - Fertility and home production
  - Political affiliations

State-level Discrimination Against Married Women

- Discrimination against married women ("marriage bars") were common during the historical United States
  - Very few employment opportunities for married women
- Data on variations of discrimination are hard to obtain
- New data: Proposed state legislation against married women working during the Great Depression (Shallcross, 1940)
  - Fueled by sentiment against married women working
  - But only one legislation out of 26 passed

State-level Discrimination Against Married Women

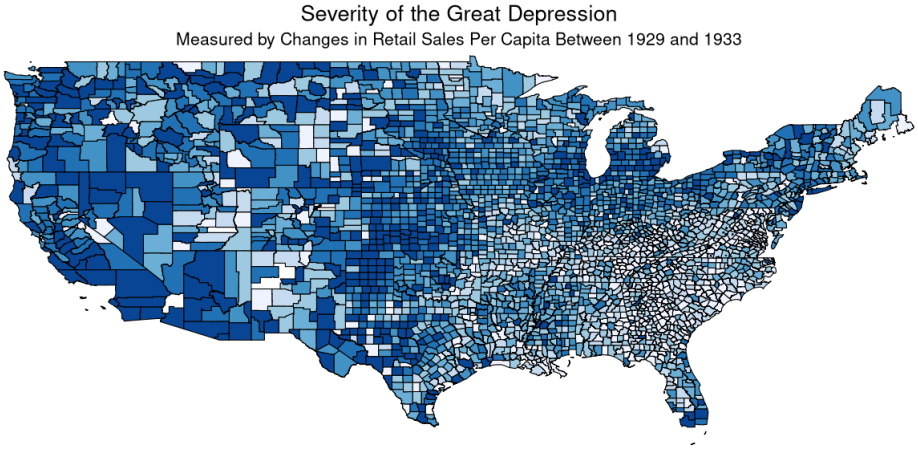


State-level Discrimination Against Married Women

- I estimate the RD by states with/without newly introduced marriage bars

	(1) Gainfully Employed	(2) Family Worker	(3) Self-Employed	(4) Weeks Worked	(5) Hours Worked
Panel A: States w. Legislation against Married Women Working					
RD Estimate	0.393***	-0.012	0.011	22.569***	15.248*
	(0.11)	(0.02)	(0.03)	(5.92)	(6.23)
N	1641	1641	1641	1641	1641
Panel B: States w/o Legislation against Married Women Working					
RD Estimate	0.049	-0.023	-0.103	8.770	2.458
	(0.18)	(0.06)	(0.11)	(7.99)	(11.00)
N	823	823	823	823	823

The Severity of the Great Depression



Back

The Severity of the Great Depression

- Severity = Δ retail sales per capita 1929 - 1933 Slide

	(1) Gainfully Employed	(2) Family Worker	(3) Self-Employed	(4) Weeks Worked	(5) Hours Worked
Panel C: Counties w. Above Median Retail Sales Loss Per Capita					
RD Estimate	0.408**	-0.051	0.079*	23.587***	12.912
	(0.13)	(0.04)	(0.03)	(5.21)	(7.02)
N	1480	1480	1480	1480	1480
Panel D: Counties w. Below Median Retail Sales Loss Per Capita					
RD Estimate	-0.073	0.007	-0.338	4.944	7.529
	(0.18)	(0.01)	(0.18)	(8.84)	(11.49)
N	984	984	984	984	984

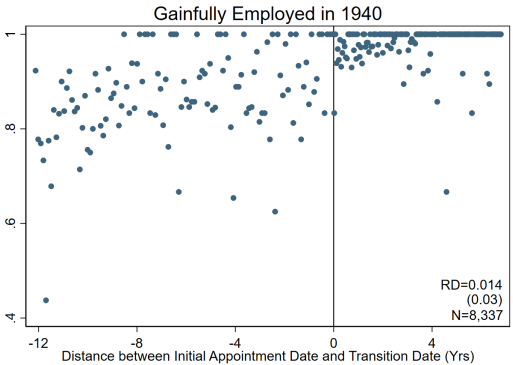
Fertility, Parenthood, and Home Production

- Did women have more children or spend more time on home production after finishing their postmaster term?
  - Measure for fertility: the number of children and the number of children under 5
  - Measure for the amount of grandchild care, elderly care, and housework women performed: the number of grandchildren/parents and parents-in-law/servants

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

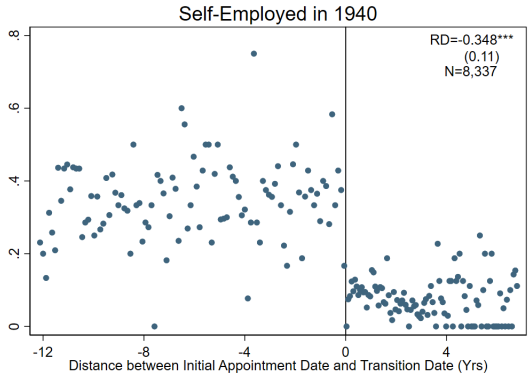
Women's Political Affiliations

- Male postmasters appointed just before the 1933 transition
  - Shared the sample political affiliation as women, but...
  - Did not experience a reduction in employment



Women's Political Affiliations

- Male postmasters appointed just before the 1933 transition
  - Shared the sample political affiliation as women, but...
  - Many of them became self-employed



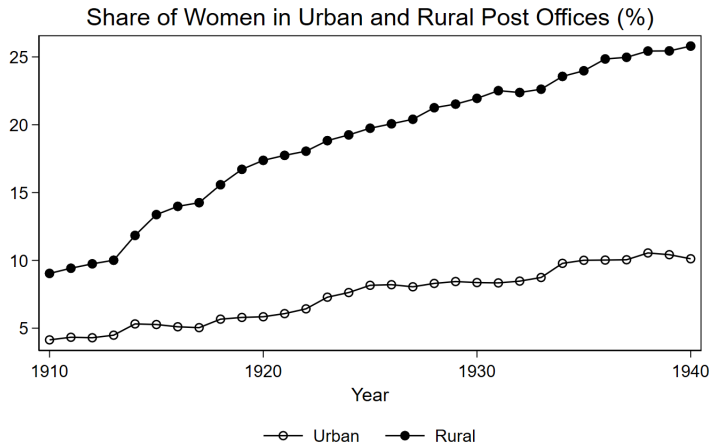
Conclusion

- This paper examines the short-term and long-term effects of a woman-friendly occupation on women's employment
  - A unique historical setting – postmasters in the early 20th-century United States
- Although a woman-friendly occupation attracted qualified women into the labor force temporarily...
- It might not be enough to be a stepping stone to these women's future careers

For questions and comments -
Email: ywl242@bu.edu
Website: https://sophieli-econ.github.io/

Background: Postmaster as a Woman-Friendly Occupation

- Women were appointed in (smaller) rural post offices that paid less Back



Background: Postmaster as a Woman-Friendly Occupation

- Appointments of married women were common after the war
  - Immediately after the Civil War, more women were appointed as postmasters in former Confederate states because the federal government enforced the "Ironclad Oath," which prevented men who had connections to the Confederacy from working in public sector jobs (Blevins, 2019)
  - Certain preferences were given to widows and wives of veterans (U.S. Government Printing Office, 1938)

Background: Postmasters as Presidential Appointees

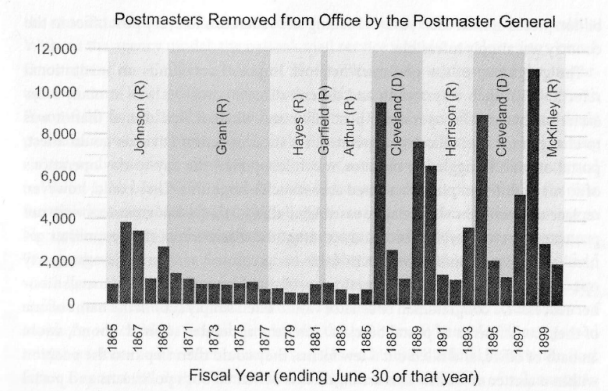


Figure 5.10 The Spoils System

This chart displays the number of postmasters who were removed from office over the preceding fiscal year (July 1 to June 30) between 1865 and 1900. These numbers were transcribed from the Annual Reports of the Postmaster General, 1865–1900.

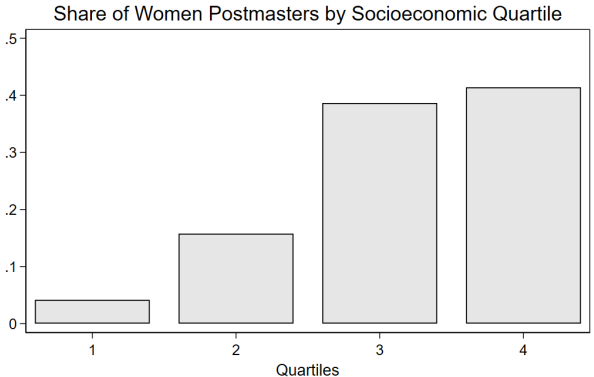
Back

Background: Postmasters as Presidential Appointees

- David Gilmour Blythe, *Post Office*, ca 1859-1863 Back

Predetermined Characteristics of Women Postmasters

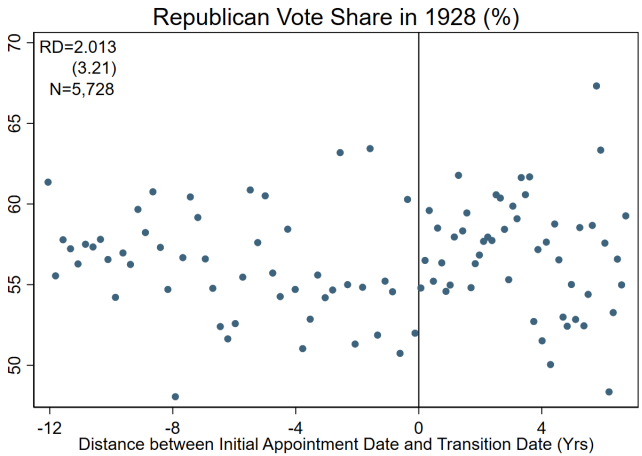
- Socioeconomic background (Imputed by first names, Olivetti and Paserman, 2015)



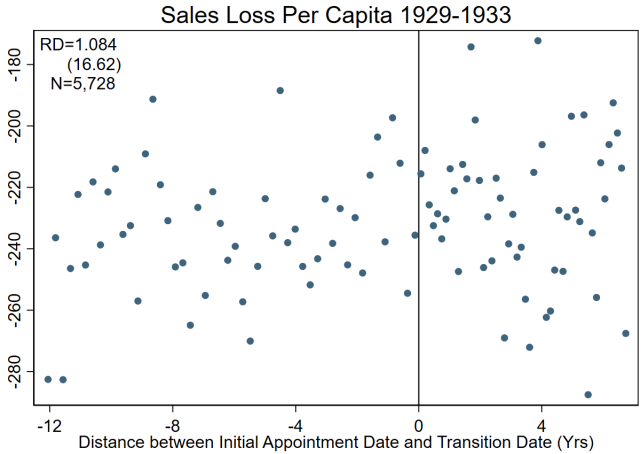
Predetermined Characteristics of Women Postmasters

	(1) Women Postmasters	(2) All Women
Variables from the 1920 Census		
Homeowner	66.3	44.2
	(47.3)	(49.7)
# Children	1.8	2.1
	(1.6)	(2.0)
N	1,294	20,965,460

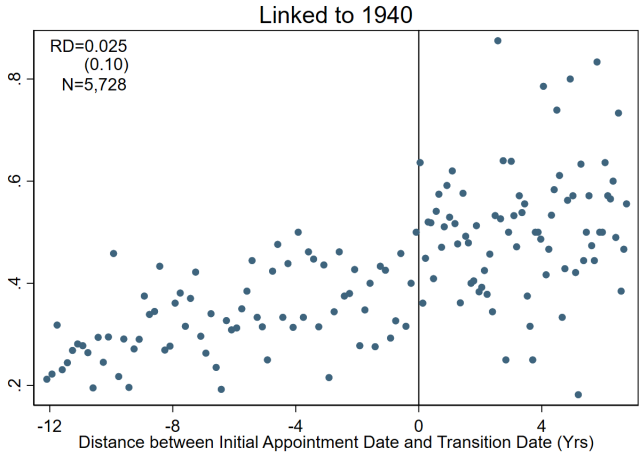
Many observed characteristics are balanced



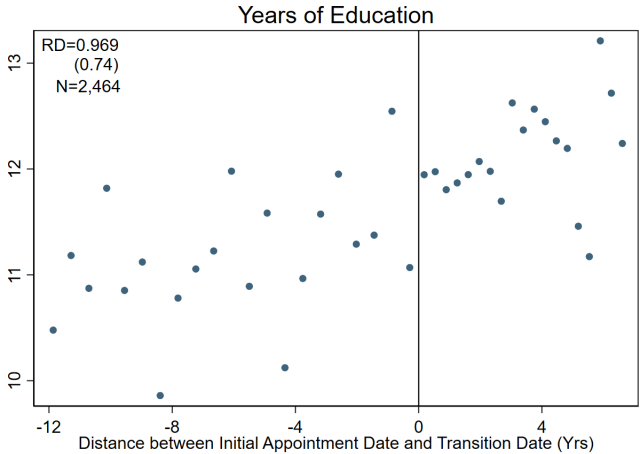
Many observed characteristics are balanced



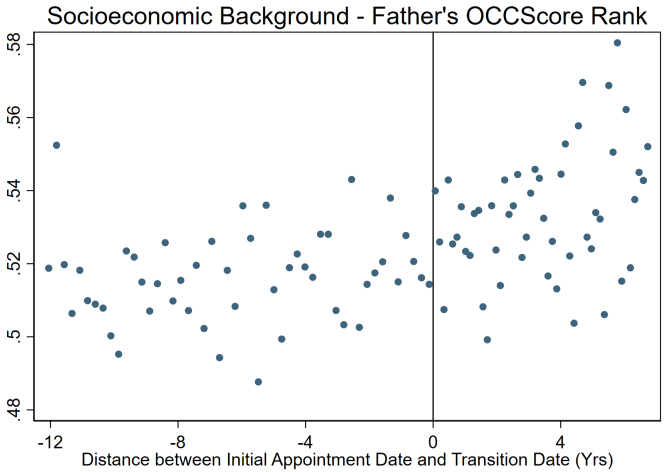
Many observed characteristics are balanced



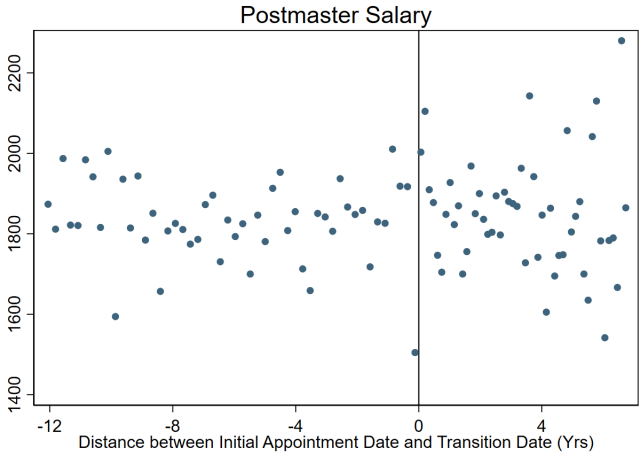
Many observed characteristics are balanced



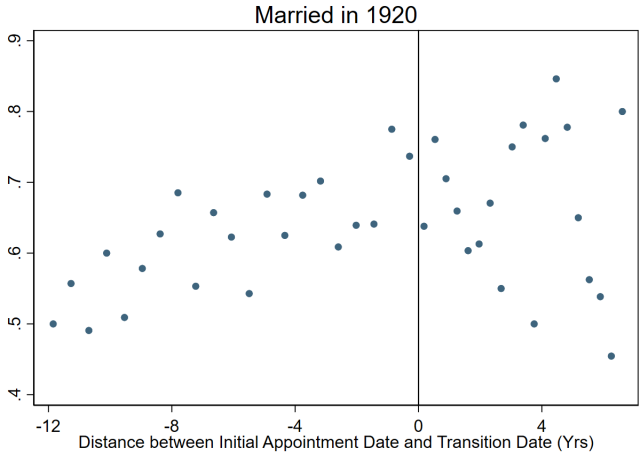
Many observed characteristics are balanced



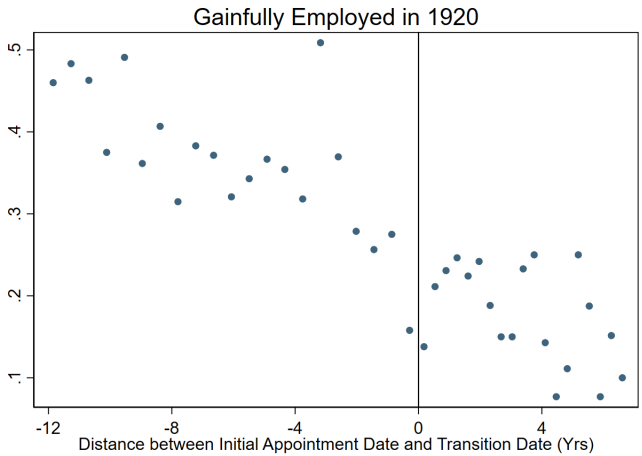
Many observed characteristics are balanced



Many observed characteristics are balanced



Many observed characteristics are balanced



RD Results Are Robust to Alternative Specifications

	(1) Gainfully Employed	(2) Family Worker	(3) Self-Employed	(4) Weeks Worked	(5) Hours Worked
A. Bias-Corrected RD w. Robust Variance Estimator					
RD Estimate	0.266*	-0.031	-0.011	16.891**	10.242
	(0.11)	(0.03)	(0.06)	(5.62)	(6.51)
B. Epanechnikov Kernel Density					
RD Estimate	0.267**	-0.027	-0.028	17.126***	11.629*
	(0.09)	(0.03)	(0.05)	(4.38)	(5.76)
C. Bandwidth = 1000 Days					
RD Estimate	0.266**	-0.025	-0.006	17.047***	11.341*
	(0.09)	(0.02)	(0.05)	(4.45)	(4.84)
N	2464	2464	2464	2464	2464

RD Results Are Robust to Alternative Specifications

	(1) Gainfully Employed	(2) Family Worker	(3) Self-Employed	(4) Weeks Worked	(5) Hours Worked
D. County-level Controls					
RD Estimate	0.264**	-0.026	-0.021	17.189***	11.219*
	(0.09)	(0.02)	(0.05)	(4.61)	(5.69)
E. Age Group Fixed Effects					
RD Estimate	0.274**	-0.025	-0.022	17.347***	11.360*
	(0.09)	(0.02)	(0.05)	(4.56)	(5.21)
N	2464	2464	2464	2464	2464

RD Results in Tables

	(1) Gainfully Employed	(2) Family Worker	(3) Self-Employed	(4) Weeks Worked	(5) Hours Worked
Panel A: RD Estimates on Women Postmasters					
RD Estimate	0.267**	-0.026	-0.016	17.016***	11.186*
	(0.09)	(0.02)	(0.05)	(4.56)	(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

RD Results in Tables

	(1) Gainfully Employed	(2) Family Worker	(3) Self-Employed	(4) Weeks Worked	(5) Hours Worked
Panel B: RD Estimates on Male Postmasters					
RD Estimate	0.014	-0.009	-0.348***	1.330	3.917
	(0.03)	(0.01)	(0.11)	(2.34)	(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

RD Results in Tables

	(1) Gainfully Employed	(2) Family Worker	(3) Self-Employed	(4) Weeks Worked	(5) Hours Worked
Panel C: Gender Differences in RD Estimates					
RD Difference	-0.252**	0.017	-0.332**	-15.686**	-7.270
	(0.10)	(0.02)	(0.12)	(5.12)	(6.68)
N Total	10801	10801	10801	10801	10801

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Fuzzy RD Results

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

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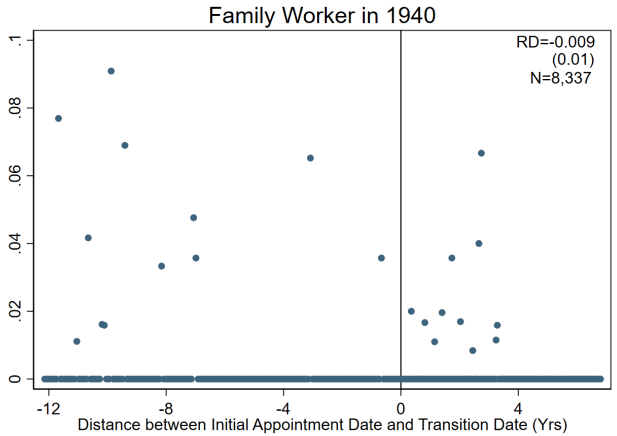
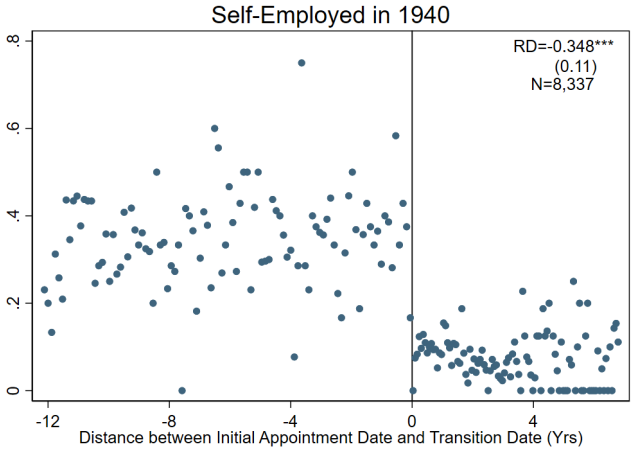
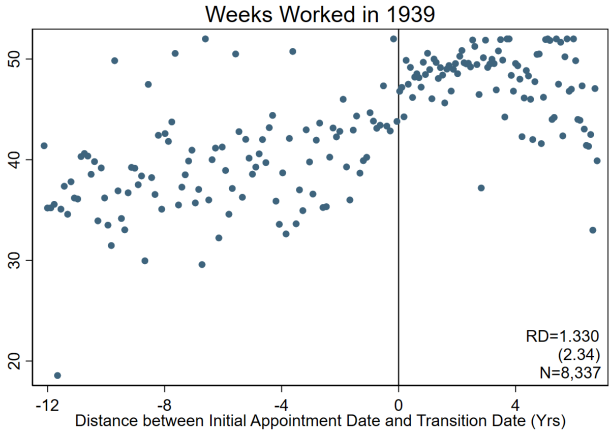
RD Results: Men as Family Workers in 1940



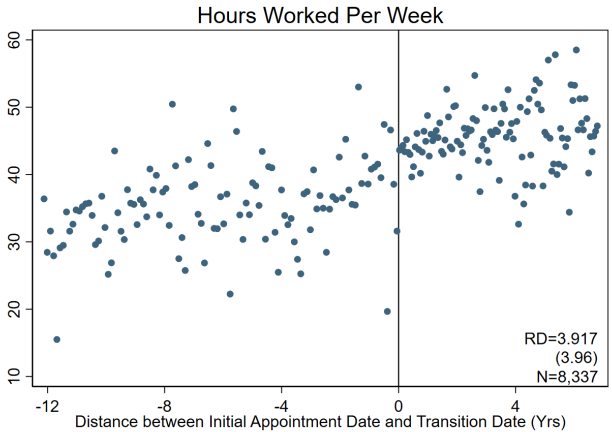
RD Results: Men's Self-Employment in 1940



RD Results: Men's Labor Supply in 1939



RD Results: Men's Labor Supply in 1940



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DID Results: Compare Women and Men

- DID estimates are similar to gender differences in RD estimates

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

- Y_{icap} is the 1930 or 1940 outcome for postmaster i initially appointed in year a in post office of size p and county c
- $Female_i$ is a dummy variable that equals 1 if the postmaster is a woman
- County fixed effects γ_c, initial appointment year fixed effects γ_a, and post office size fixed effects γ_p are included
- Individual-level controls X_{icap}: age, age square, farm and urban status, years of schooling, and migration status

DID Results: Compare Women and Men

- DID estimates are similar to gender differences in RD estimates

	(1) Gainfully Employed	(2) Self Employed
DID Estimate	-0.335***	-0.234***
	(0.03)	(0.02)
N	5565	5565

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Heterogeneous Results: By Women's Marital Status

- Did married women experience worse outcomes relative to single women?

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

- Y_{icap} is the 1940 outcome for postmaster i initially appointed in year a in post office of size p and county c
- $Married_i$ is a dummy variable that equals 1 if the woman postmaster was currently married
- County fixed effects γ_c, initial appointment year fixed effects γ_a, and post office size fixed effects γ_p are included
- Individual-level controls X_{icap}: age, age square, farm and urban status, years of schooling, and migration status

Heterogeneous Results: By Women's Marital Status

- Did married women experience worse outcomes relative to single women?

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

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Heterogeneous Results: By Women's Tenure Length

- Did women with longer tenure experience better outcomes?

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

- Y_{icap} is the 1940 outcome for postmaster i initially appointed in year a in post office of size p and county c
- $Married_i$ is a dummy variable that equals 1 if the woman postmaster was currently married
- County fixed effects γ_c, initial appointment year fixed effects γ_a, and post office size fixed effects γ_p are included
- Individual-level controls X_{icap}: age, age square, farm and urban status, years of schooling, and migration status

Heterogeneous Results: By Women's Tenure Length

- Did women with longer tenure experience better outcomes?

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

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RD Estimates Under the Great Depression

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