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States**

**VINCENT DELABASTITA, MEREDITH M. PAKER,
BENJAMIN SCHNEIDER**

Women's Wages and Job Quality in the 1920s United States

Vincent DELABASTITA*
Radboud University

Meredith M. PAKER†
Grinnell College

Benjamin SCHNEIDER‡
OsloMet

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Abstract

What were women paid in the early twentieth century United States, and why did their wages differ? Using newly-digitized data with complete state-industry wage distributions, we find substantial sectoral and geographic heterogeneity in women's wages. Incorporating non-wage dimensions of job quality reveals that low-wage industries had generally lower job quality, while the strongest correlates to wages were the demographic composition of the industries' workforces. Combined with some evidence that women's labor supply was not fully responsive to differences in local labor demand, we conclude that many women were confined to low-quality, low-paid employment.

JEL classification codes: J31, N32, J71, J81

Keywords: wages, job quality, working conditions, women, industries, regions, 1920s, interwar

*Email: vincent.delabastita@ru.nl

†Email: pakermer@grinnell.edu

‡Email: benjamin.schneider@oslomet.no

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1 Introduction

What were women paid in the early twentieth century United States and why did their wages differ? Despite increasing knowledge and interest in women’s labor market experiences, recently marked by Claudia Goldin’s Nobel Prize, basic questions on the prices of women’s labor remain open. In this paper, we approach these larger questions by investigating women’s wages and their intersection with job quality in 13 states, exploring heterogeneity in pay and amenities in women’s work by industry and geography. Much of what we know about women in American labor markets focuses on careful reconstructions of women’s labor force participation: the *quantity* of female labor. To fully understand the dynamics of women’s experience in formal labor markets, a comprehensive appraisal of not only quantities but also the *prices* of female labor is essential.

We add a new perspective on prices, including wages and job amenities, to our existing understanding about quantities by analyzing state-industry variation in female wages and employment in the 1920s. Previous research has established that this period was approximately the nadir of the U-curve of female labor force participation (Goldin, 1990, 1995). However, little is known about women’s pay in the 1920s as earlier studies have exclusively used nationally-aggregated figures that only provide wages for manufacturing industries (Goldin, 1990).¹ Sectoral and regional heterogeneity have received less attention, leaving much of the variation in female labor market equilibria across the US underexplored. Our sources in this period allow us to address this gap and incorporate information on non-wage dimensions of job quality, as wages alone do not capture the total inequality of rewards and benefits from work.

We digitize and analyze novel data from the state-level reports of the Women’s Bureau of the US Department of Labor, which cover more than 160,000 workers in 13 states

¹Much scholarship on female wages in the past has focused on Great Britain (Burnette, 1997, 2004; Humphries & Weisdorf, 2015) and other European countries (Gary, 2017; Humphries & Schneider, 2019; Drelichman & Agudo, 2020; De Pleijt & Van Zanden, 2021; Beneito & Garcia-Gómez, 2022; Buyst & Delabastita, 2023; Molinder & Pihl, 2023). Most research investigating women’s wages in the US has focused on the turn of the 20th century and the period after the Second World War (Aldrich & Albelda, 1980; Eichengreen, 1984; Goldin, 1980, 1984, 1990; Burnette, 2015).

between 1920 and 1925. The reports were based on in-person visits to over 2,200 establishments where the Women's Bureau collected data on wages, working conditions, and demographics. With this new dataset, we present novel descriptive statistics on wages and job quality at the state and industry level. We also systematically examine the qualitative evidence in the reports and document disparities in non-wage dimensions of job quality between industries and states. Then, we correlate quantitative dimensions of job quality and the demographics of an industry to the distribution of wages in a series of regression models. Finally, we place our new data in a broader perspective by evaluating the relationship between regional wage inequalities and women's formal labor force participation.

We find substantial variation in the distribution of wages and job quality along industry and state lines. Though female labor force participation was near its lowest point in American history, the labor market experiences of women who did work varied considerably. Geographically, median wages were lower in the South than in the Northeast and the wage distribution was more unequal. Disaggregating by industry shows large differences between service and manufacturing industries and across different types of manufacturing industries. For example, wages were generally high (but unequal) in clothing manufacturing, while textile manufacturing wages were more uniformly among the lowest. Qualitative evidence of the work environment and work intensity in the reports generally shows that poorly-paid industries such as textiles and laundries also had poorer conditions on these dimensions.

We then explore the correlation of different points in the wage distribution by industry and state with measures of job quality and industry demographics. We find that, in general, when women worked more hours per week, they were actually paid less per week, suggesting poorer quality jobs were also lower paid. The demographic composition of the industry appears more significant: industries with more married women or Black women had lower wages at every point in the wage distribution.

Taken together, the substantial variation in women's wages and other job quality dimensions along geographic and industrial lines, combined with the ways that job quality

and demographics were associated with these divisions, reveals that national or highly-aggregated series of women's wages may be less representative than previously thought. This is also reflected in the large regional variation in female labor force participation. Confronting this measure of quantity with our wage data, we find patterns which are consistent with local labor supply not fully responding to shifts in local labor demand, underscoring how demand shaped the labor market outcomes of American women. This interaction of labor supply constraints and local labor demand reinforces our conclusions that many women were confined to low-quality, low-paid employment.

This paper contributes to the literature in four ways. First and foremost, we contribute to the economic history of American women, for which there is relatively little disaggregated quantitative evidence for the 1920s. Much research has focused on the reconstruction of women's participation in the labor force, which generally shows that women's market employment was low in the interwar period ([Goldin, 1995](#); [Bellou & Cardia, 2021](#); [Chiswick & Robinson, 2021](#)).² There is less evidence for wages and working conditions, particularly in the 1920s.³ We directly address this gap by focusing on the price of women's market labor in the 1920s.

Our second and related contribution is highlighting geographic and industrial heterogeneity in women's wages. The traditional source for wages in the 1920s is the National Industrial Conference Board (NICB) ([Beney, 1936](#)), used by [Goldin \(1990, 60-62\)](#), which presents national earnings series.⁴ The NICB data have major limitations as they are presented only at a highly-aggregated national level and exclude all women in services. For

²Measuring female labor force participation is challenging because historical sources often provide only a limited view of women's economic activities. For a general discussion, see [Humphries and Sarasúa \(2012\)](#). Recent research has aimed at overcoming gender biases in historical data, such as [Chiswick and Robinson \(2021\)](#) for working women in the 1860 and 1920 US population censuses. Scholars have also questioned the usefulness of labor force participation as a measure of women's economic activities ([Burnette, 2021, 2025](#)).

³For illustration, [Burnette \(2015, 136\)](#) discusses how the Censuses of Manufactures stopped reporting labor data by gender in 1920. The wages of women in the US before the First World War have received some attention through a range of sources ([Aldrich & Albelda, 1980](#); [Goldin & Sokoloff, 1982](#); [Eichengreen, 1984](#); [Goldin, 1984](#)). From the mid-20th century, gender-disaggregated Census data on incomes became available, and these have been used extensively by economists (for example, [Acemoglu, Autor, & Lyle, 2004](#)).

⁴The NICB survey provides wage data at a monthly interval and has been used in the substantial literature on the economic history of wage rigidities, such as [Hanes \(2020\)](#).

the analysis of wages, the NICB only reported average earnings and hours without information on wage distributions or job quality. The Women’s Bureau data that we digitize for this paper addresses these limitations, providing a richer view of women’s wages disaggregated by industry and geography. As such, we also speak to a burgeoning literature on the regional determinants of female employment in 1920s US.⁵

Third, we contribute analysis of a still-understudied segment of the workforce to the general economic history of American labor markets ([Rosenbloom, 1996](#); [Fishback, 1998](#); [Margo, 2024](#)). Economic historians and economists increasingly recognize that only studying white male subgroups biases our understanding of historical labor markets. This is for instance illustrated by the findings on the evolution of ‘representative’ intergenerational mobility in 20th-century US ([Jácome, Kuziemko, & Naidu, 2025](#)). By shedding light on women in interwar US labor markets, we better understand not only the economic progress of women, but also these labor markets more generally.

Fourth, we also contribute to the growing literature on job quality and its determinants. Job quality perspectives suggest that the costs and benefits of employment should be examined in a framework that includes wages alongside aspects such as safety, working hours, autonomy, and work intensity.⁶ In modern settings, job quality has been shown to have a major influence on overall wellbeing ([Green, Lee, Zou, & Zhou, 2024](#)), causing wages to not fully capture the differences in rewards between jobs ([Maestas, Mullen, Powell, Von Wachter, & Wenger, 2023](#); [Clark, Cotofan, & Layard, 2024](#)). While there is historical research on compensating differentials for occupational risk and job insecurity in the US ([Hatton & Williamson, 1991](#); [Fishback & Kantor, 1992](#); [S.-W. Kim & Fishback, 1993](#)), systematic analysis of job quality in history has received little attention, leaving the

⁵For example, recent papers have explored how labor legislation that impacted women in the US during the first half of the 20th century shaped the political economy ([Doepke, Foerster, Hannusch, & Tertilt, 2025](#)) and labor supply decisions ([Haddad & Kattan, in press](#)) at the state level, emphasizing the importance of regional variation. [Marchingiglio and Poyker \(in press\)](#) consider an even more disaggregated geographic level, looking at how state-level gendered minimum wage legislation affected county-level female employment.

⁶Job quality is part of the International Labour Organization’s concept of “decent work” ([International Labour Organization, 1999, 2001](#)) and improving job quality is a current policy commitment of all UN members in the Sustainable Development Goals ([Findlay, Warhurst, Keep, & Lloyd, 2017](#)).

structure of women’s past job quality underexplored.⁷ This paper advances the nascent literature that analyzes historical work multidimensionally by capturing job quality dimensions such as working hours and consistency, by exploring their relationship with wages quantitatively, and by compiling and comparing qualitative evidence of working conditions.

The remainder of the paper is structured as follows. Section 2 presents the historical context of our analysis, suggesting features of women’s labor markets in the 1920s that may have produced the variation we observe. Section 3 discusses our new data sources for women’s labor in the 1920s. Section 4 analyzes how wages, wage distributions, working conditions, and demographic patterns varied across industries and between states. Section 5 further explores these trends with regressions. Section 6 connects our findings to state-level variation in female labor force participation. Finally, Section 7 concludes.

2 Historical context

This section describes the context of women’s employment in the US during the 1920s and the institutions that shaped the labor market, highlighting factors that may explain the variations in women’s employment quality by state, industry, and demographics that we observe.

Labor force participation is the most-researched aspect of women’s employment in this period. Goldin (1990, 17) estimates that only about 1 in 4 women were active in the formal labor market during the 1920s, placing the period near the bottom of the U-curve (Goldin, 1995).⁸ Labor force participation also varied widely by race and marital status: for example, labor force participation for Black women was about 40% in 1920 (Amott & Matthaei, 1996, 305) but under 10% for married white women (Goldin, 1990). Many women, particularly white women, left the paid labor market upon marriage (Goldin,

⁷Labor historians have examined qualitative aspects of work such as intensity, but these analyses have not systematically compared jobs longitudinally or in cross-section on non-wage dimensions (Schneider, *in press*).

⁸Goldin’s 1995 claim that the 1920s were the low point revises the view put forward in Goldin (1990). While women’s labor force participation rose substantially during World War I, men rapidly replaced women after demobilization (Greenwald, 1975, 1990; Goldin, 1991; Goldin & Olivetti, 2013).

1980). As a result, formal labor markets primarily employed workers of color, young women, less educated women, and poor women (Goldin, 2006). Newly-married women who left the paid labor market rarely returned, while those who remained working or only took a brief break were likely to remain in paid work for many years (Goldin, 1989).

The Women's Bureau, our source for the novel data presented in this paper, highlighted implications of this differentiation. They wrote, "the married woman in industry, who is forced to work because of economic necessity brought about by her husband's death, incapacity, or inability to earn an adequate wage for himself and his family, usually must take whatever job she can get, without too much question of wages or hours" (US DOL Women's Bureau, 1931, 2). Married women and women without a male breadwinner in their household had particularly poor bargaining positions, and they may have sorted into lower-paying industries with worse conditions and fewer options to exit (Kessler-Harris, 1982).

Alongside labor force participation, the gender wage gap and gender discrimination have received much attention. The substantial gender wage gap narrowed slightly in the early 20th century but was largely static from the 1920s to the 1980s, with women earning an estimated 63% of men's wages in our period (Marini, 1989).⁹ Aldrich and Albelda (1980) argue that occupational preferences, physical strength (productivity), and occupational segregation were important factors explaining this gap in manufacturing. Limited geographic mobility may also have contributed to the poor bargaining position or limited occupational choice of married women and dependent female children. The most blatant gender employment discrimination in the 1920s was the introduction of marriage bars. These local laws and company policies blocked married women from employment or forced already-employed women to leave their jobs upon marriage. However, marriage bars were rarely used in manufacturing firms; the workers most affected by marriage bars were teachers in public schools (Goldin, 1988a).

Geographically, US states varied in per capita income, industrial composition, and de-

⁹Marini (1989) uses data on the gender wage gap from Smith and Ward (1984), who construct gender employment ratios for 60 occupational categories and use income data by occupation from the 1960 Census to estimate the wage gap.

mographics. Southern per capita income had fallen well below the North in the late 19th century and remained lower in the period we analyze ([Easterlin, 1960](#)). US states were at their highest level of manufacturing specialization during the interwar period, which explains a substantial part of the overall North-South gap in income per capita through unfavorable industry mixes and lower relative wages ([S. Kim, 1998](#)). Demographic differences between states are well-known: Black Americans were more than 30% of the population in Southern states such as South Carolina, Georgia, and Mississippi in the 1920 Census, while several states surveyed by the Women’s Bureau had very small Black populations, including Missouri (5.2%) and New Jersey (3.7%).¹⁰

Employment in this period was almost invariably “at will,” except for the small number of unionized workers ([Fishback, 2022](#)), and collective bargaining was almost entirely absent from our sample. While we have just shown contemporary and scholarly views that married women in formal employment were in particularly poor bargaining positions, women’s bargaining power was generally low overall. [Tentler \(1979\)](#) argues that women rarely engaged in wage bargaining because of expectations about social roles, and, in manufacturing, women were the first workers to be dismissed. Advocates of a minimum wage such as John Bates Clark claimed that women needed a wage floor because they had a limited choice of occupations and little leverage ([Fishback & Seltzer, 2021](#)).

Minimum wage advocacy was but one part of the broader Progressive Era shift to regulation of employment conditions in which paternalistic reformers focused on women’s and children’s work ([Ratner, 1980](#); [Dembe, 2011](#)). Almost all labor regulations were enacted by state governments, and there was substantial variation across states ([Fishback, Holmes, & Allen, 2009](#)). We document this variation in regulation across the states in our sample in Appendix Table [A5](#). The federal government only regulated labor conditions for federal employees and industries engaged in interstate commerce ([Kelly, 1950](#)). By the 1920s regulation was the most extensive in New England, the Upper Midwest, and parts of the West, as measured in the summary indices in [Fishback et al. \(2009\)](#). Most of the Southern states in our sample had little regulation and likely less enforcement. State-level

¹⁰The potential importance of such differences for the study of women’s employment has previously been highlighted by [Olivetti \(2014, 191\)](#).

differences in labor legislation likely had a real impact on women's employment ([Landes, 1980](#); [Goldin, 1988b](#); [McCammon, 1996](#); [Haddad & Kattan, in press](#)).

One group of regulations limited the hours and periodicity of women's and children's employment. Hours limits had been enacted in 44 of the 48 states by 1921, with varying maxima. The full range of hours regulations for the states in our sample is shown in Appendix Table [A5](#). Two states in our sample (Alabama and Georgia) had no maximum working hours laws at the time of the Women's Bureau data collection. Limits in the 11 states with regulated working time ranged from 50 hours per week (Ohio) to 60 (Kentucky). Most (nine) states limited hours to 54–57 per week, although there were some state-level exceptions for specific industries ([Jones, 1975](#)).

Investigations and reports on “sweated trades” in the late 19th century also drew attention to the low wages that concerned John Bates Clark. The first minimum wage law was passed in Massachusetts in 1912, and a further 14 states and the District of Columbia passed minimum wage legislation by 1923, when the Supreme Court struck down all minima in *Adkins v. Children's Hospital* ([Fishback & Seltzer, 2021](#)). Only one state in our sample, Arkansas, had a minimum wage law in place during the period when it was surveyed by the Women's Bureau. Another subject of public interest and Progressive activity was child labor. Restrictions on children's work included minimum working ages, compulsory schooling, hours limits, and outright prohibitions on children in certain occupations ([Sanderson, 1974](#); [Moehling, 1999](#)). In our sample, all states had minimum working ages and schooling requirements, shown in Appendix Table [A5](#), although enforcement varied. The Southern states, as in other aspects of labor regulation, generally had the fewest limitations on children's employment and the weakest enforcement.

The other main aspects of labor conditions that were discussed and regulated were sanitation and occupational safety ([Fishback, 2005](#)). Regulations in these areas were generally less specific and consequently more difficult to enforce. In our sources, ergonomic factors such as insufficient or poorly-designed seating were frequently discussed by the Women's Bureau and were sometimes subject to regulation. To ensure adherence to these laws, 11 of the 13 states in our sample had factory inspectorates established before the

Women's Bureau surveys. Alabama and Arkansas only had inspectorates for mining, an industry that was not surveyed by the Women's Bureau as it employed hardly any women. In Tennessee the state government had the power to inspect establishments but did not conduct regular inspections.

To summarize, the regulatory environment was a patchwork in the 1920s, both in law and, probably, enforcement. The main regional generalization that can be drawn is that the Southern states (except Oklahoma) had less and looser regulation of women's and children's employment and working conditions.

A final important dimension of female labor in this setting is occupational and wage discrimination by race. While such discrimination was common throughout the country, it was most pronounced in the South (Sundstrom, 2007). Higgs (1977) argues that Black workers faced more discrimination in non-agricultural work than they did in agriculture.¹¹ Black Americans were generally blocked from formal occupational training and excluded from white unions and many types of jobs (Higgs, 1977; Sundstrom, 2007). In our sources for non-agricultural work, the Women's Bureau asserted that Black women earned lower wages because of occupational segregation and because they were paid lower wages even when employed in the same work (US DOL Women's Bureau, 1923c, 82).

In the following sections, we demonstrate the implications of potential discrimination, occupational sorting, varied bargaining power, and the regulatory patchwork for women's wages and job quality, examining these features quantitatively and qualitatively using the Women's Bureau reports.

3 Data

The core of our data are the contents of 13 reports produced by the Women's Bureau of the US Department of Labor (DOL), published between 1922 and 1927. The Women's Bureau was established as the Women in Industry Service, a war agency of the DOL, in 1918. Its

¹¹One limitation of our data for assessing racial discrimination and variation in job quality is the sectoral coverage: the Women's Bureau did not collect information on agricultural workers and only surveyed a few industries of domestic and personal service that employed many Black workers.

remit was to investigate the conditions of women workers across the United States and make recommendations to improve their situation, although it had no regulatory powers. In 1920 the Women in Industry Service was made a permanent part of the DOL and renamed the Women's Bureau; by 1923, it had a staff of 38 employees ([Weber, 1923](#)). The Women's Bureau advanced an early concept of job quality for women in its publications and proposed a set of "Standards for the Employment of Women", including suitable wages, limited working hours, avoidance of night shifts, a safe and clean workspace, sanitary facilities, breaks, and employee representation in the determination of working conditions ([US DOL Women's Bureau, 1931](#)).

At the invitation of state governments, the Special Agents of the Women's Bureau visited workplaces in seventeen states during the 1920s and produced reports for each state that are our main sources. Of these, four state reports (Illinois, Kansas, Maryland, and Virginia) did not contain data on wages and are not included in our analysis, leaving thirteen reports from the following states: Alabama, Arkansas, Delaware, Georgia, Kentucky, Mississippi, Missouri, New Jersey, Ohio, Oklahoma, Rhode Island, South Carolina, and Tennessee. The data were collected through factory visits, worker surveys, and worker and management interviews between 1920 and 1925. In all states the Special Agents of the Women's Bureau collected data from a variety of locations to improve representativeness. Notably, the statisticians and authors of the reports were women, and throughout the period in which the reports were produced the Bureau was led by the former trade unionist Mary Anderson.

This paper is the first to use data from all available Women's Bureau state reports in this period. An overview of all the sampled state reports is shown in [Table A1](#) in [Appendix A.1](#), and all reports used are listed in the bibliography. We also refer to this [Appendix](#) for a more detailed exposition of the construction of our sample. The Women's Bureau itself also considered these surveys to be directly comparable, as evidenced by [Pidgeon \(1931\)](#).

The Women's Bureau collected wage and working hours data in two ways: by compiling statistics from company wage accounts (supplied by the establishment) and by distributing surveys to workers. The reports also state that payroll data were collected from

periods of “normal conditions,” as attested by the factory managers, to avoid collecting unrepresentative data. The reports provide us with data that covers wages, working conditions, several aspects of job quality, work schedules, and demographics. Special Agents from the Division of Investigations also made qualitative notes from their observations of factory conditions, and from interviews with managers and workers, which we discuss further below.¹²

Our quantitative analysis focuses on comprehensive information on the distribution of wages within industries at state level from the reports. The reports usually contain information on both the scheduled weekly rate and the actual earnings of female workers by industry. To minimize the potential effects of seasonality and the inconsistency of working hours, our analysis uses the scheduled weekly rates when available, and actual earnings otherwise. In addition to industry medians, the reports provide wage distributions that show how many women earned binned amounts per week, usually in \$1 increments. For worker i with wage w_i between w_i^l and w_i^u , we take their wage rate to be the average of w_i^l and w_i^u . Given the large number of wage groups, we believe that this is an innocuous assumption. Finally, all wages were made comparable to account for cost-of-living differences across the slightly diverging survey periods per state (Table A1 in Appendix A.1), using the monthly BLS CPI (U.S. Bureau of Labor Statistics, 2024).¹³

We complement the Women’s Bureau data with data on occupational safety, an important potential disamenity of work. The Women’s Bureau did not collect safety data in its reports, and records of industrial accidents were not kept for all of the states and specific industry categories in our sample. While there are aggregate accident statistics available for some of the surveyed states in this period, most do not separate occupational

¹²Using the Historical Job Quality Indicators (Schneider, in press) as a framework, we have quantitative data on all or part of Real Compensation, Working Time, and Stability and Quality of Earnings. The qualitative data in the reports provides at least some evidence for the further dimensions of Short-Term (Accident) Risks, Long-Term (Industrial Disease) Risks, Work Intensity, and Autonomy, which we complement with additional quantitative data on occupational safety.

¹³Note we compare wages which were only deflated using a national CPI because regional CPI data are not available for this period. For the earlier period of 1890, Haines (1989) shows that cost-of-living differentials across states were low – in the most extreme example, only a 19% difference between Rhode Island and Kentucky. Generally, we find geographical wage gaps which are much bigger than this most extreme example of cost-of-living gaps, e.g. a North-South wage premium of 50%.

risks for men and women, and occupational segregation within industries may be a resulting confounder. The most comprehensive safety statistics for women in this period were tabulated in a Bulletin of the Women’s Bureau, “Industrial Accidents to Women in New Jersey, Ohio, and Wisconsin” (US DOL Women’s Bureau, 1927a). This report provides injury rates and the occurrence of fatalities, permanent disability, and temporary disability for women workers in more than 50 subindustry groups. We match aggregated subindustries from this Bulletin with the industries in our wage and working conditions data from the state reports of the Women’s Bureau described above to capture differences in occupational safety.

Finally, we also link the Women’s Bureau surveys to the full count censuses of 1920 and 1930 (Ruggles et al., 2024) by coding the Women’s Bureau’s industries into the 1950 Census Bureau industrial classification system. This allows us to contextualize the Women’s Bureau data in terms of the broader employment developments of the industries and states under scrutiny including male employment. Furthermore, we can use the Census data to briefly assess the claims of representativeness made by the Women’s Bureau. A comparison of our Women’s Bureau sample and the 1920 full count Census can be found in Figure A1 in Appendix A.3. Overall, the impressive coverage of the Women’s Bureau surveys stands out (see Figure A1(a)), as well as its relatively representative industrial composition (see Figure A1(b)).

4 Variations in wages, working hours, and job quality

The sources described above enable us explore women’s paid work in the 1920s from a more disaggregated perspective. In this section, we provide new evidence on wage levels, distributions, wage inequality, working hours, and working conditions by state and by industry.¹⁴

¹⁴We also refer to Table A4 in Appendix A.1 for a tabulated summary of the wage data.

4.1 The importance of disaggregation

First, we compare the Women’s Bureau data with existing evidence of women’s wages in this period. To do so, we present the wage data we collected from the Women’s Bureau alongside the earnings information provided by the National Industrial Conference Board (NICB) (Beney, 1936). The NICB data has been used in most research on women’s wages in the US between the two World Wars, most notably Goldin (1990).

As outlined in the introduction, the NICB data differ fundamentally from the Women’s Bureau surveys we rely on in this paper. While our data were collected during in-person visits to establishments by transcribing original payrolls and surveying workers, the NICB presented a national average of figures self-reported by establishments in response to mailed questionnaires. The establishments that responded to the NICB were much larger than those surveyed by the Women’s Bureau: the mean number of workers per establishment in 1927 was 482 (Brissenden, 1929, 18–19). The NICB sample fluctuated month-to-month as firms were added to or stopped responding to the survey (Beney, 1936, 16–17). The NICB data for women’s wages and hours only include national manufacturing industries, and, importantly, only report aggregate averages for broadly defined subindustries. This means that the data lack distributional information and information at the industry-state level.

Figure 1 compares the wage distributions in our data for manufacturing (panel a), manufacturing by region (panel b), retailing (panel c) and laundries (panel d) with the NICB data, given by the dashed vertical lines.¹⁵ The comparisons in panel (a) and panel (b) are the most direct, as both samples refer to manufacturing only. Two key findings stand out. First, any economic and historical narrative based on a single wage average like the NICB vastly underestimates the diversity of wage experiences of women. This is evident in both of the manufacturing panels (a and b) which show a wide distribution of wages. The comparisons for retailing (panel c) and laundries (panel d) further underscore this, as even within these relatively narrowly defined industry categories, aggregate

¹⁵We use the composite NICB wage series for “25 manufacturing industries” (Beney, 1936, 48-51), following Goldin (1990).

measures such as the NICB average do not capturing the scope of female wage variation.

Second, it is clear that the NICB earnings are mostly drawn from the upper tails of the wage distribution as determined by our dataset.¹⁶ This suggests that the self-reported nature of the NICB data translated into either a misreporting bias (due to manufacturers reporting too high earnings) or selection bias (due to only bigger, and higher-paying employers returning questionnaires to the NICB). The Women’s Bureau surveys allow us to present an arguably more representative, or at least more diverse, picture of the female wage-earning experience in the 1920s US.

In addition to offering a fuller picture of women’s earnings, the Women’s Bureau surveys allow us to assess wage variation across states and industries, on which the NICB data is silent. We can further consider how job quality and the demographic composition of workers shapes this variation, which we do in the next section.

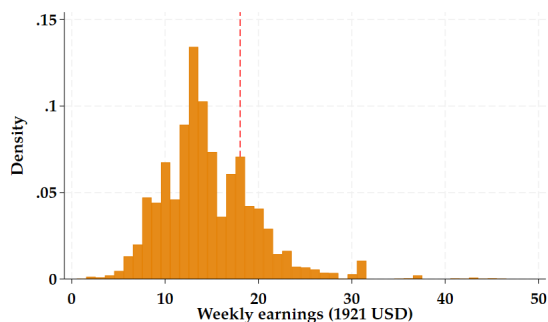
4.2 State-level variation in wages

How did women’s wages vary geographically? To explore this question, we analyze the Women’s Bureau data at the state level for each of the 13 states in our sample. For each state, we have a snapshot of the complete distribution of wages for all women working in any industry who were surveyed by the Women’s Bureau.

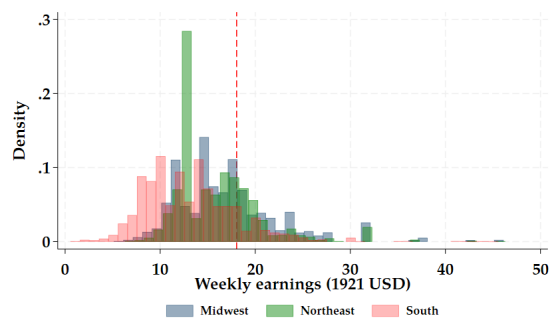
Figure 2(a) presents the median weekly wage rate ($p50$) for each state in the sample, as well as the number of wage observations (N) on which that median is based. These median wage levels show large differences across states. Wages in the Southern states (Alabama, Mississippi, South Carolina, and Tennessee) were much lower than the other states in our sample. For example, a median worker in Alabama or Mississippi earned only \$10.12 or \$10.43 per week, respectively. Wages were much higher in the North, reaching a

¹⁶A potential concern could be that this finding is the result of our averaging of rates within the NICB data over the relatively wide sample period of the Women’s Bureau data (from May 1920 to May 1925). If observations from the later years of this period (when wages were generally higher) have more weight in the NICB sample than in the Women’s Bureau data, this could upwardly bias our NICB rates. To ascertain that this is not the case, we also match the Women’s Bureau data to the according month-level data in the NICB report. In Appendix Figure A6, we report the difference in rates between the Women’s Bureau and NICB rates for every industry-state observation in our dataset, confirming the comparatively high rates within the NICB sample.

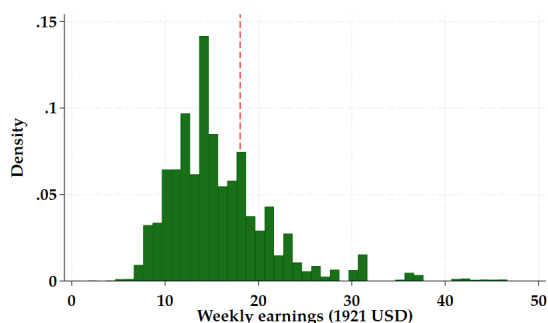
Figure 1: Distribution of female wages (weekly rates) in 1920s US compared to the NICB data



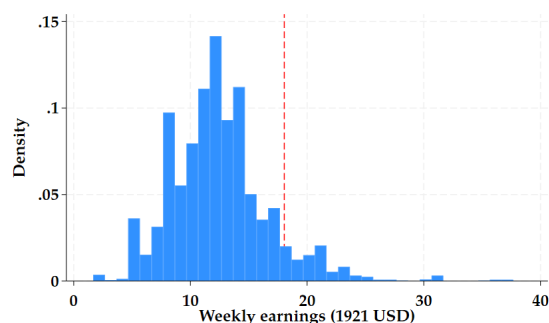
(a) Manufacturing



(b) Manufacturing, by region



(c) Retailing



(d) Laundries

Notes: The dashed vertical lines represent the average weekly earnings as per the NICB data.

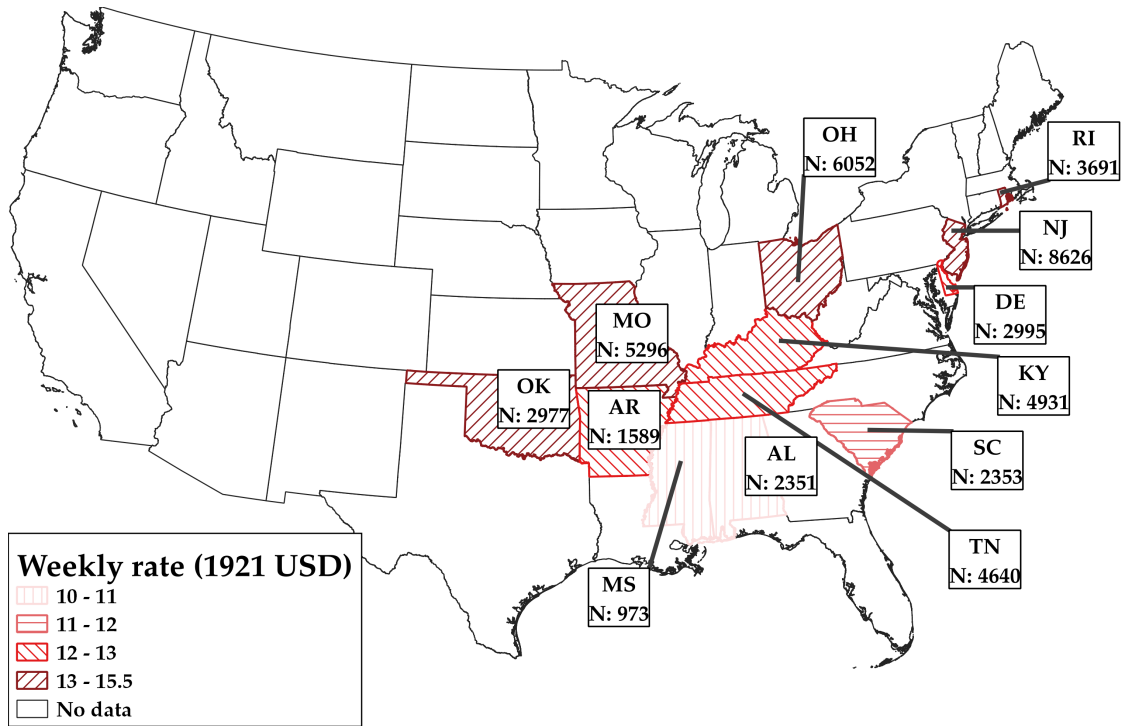
Source: Authors' database, based on the Women's Bureau surveys. The NICB data is derived from [Beney \(1936, 48-51\)](#) by calculating the average weekly rates (in 1921 USD) over the period June 1920-May 1925.

median of \$15.45 per week in states like Ohio and New Jersey.¹⁷

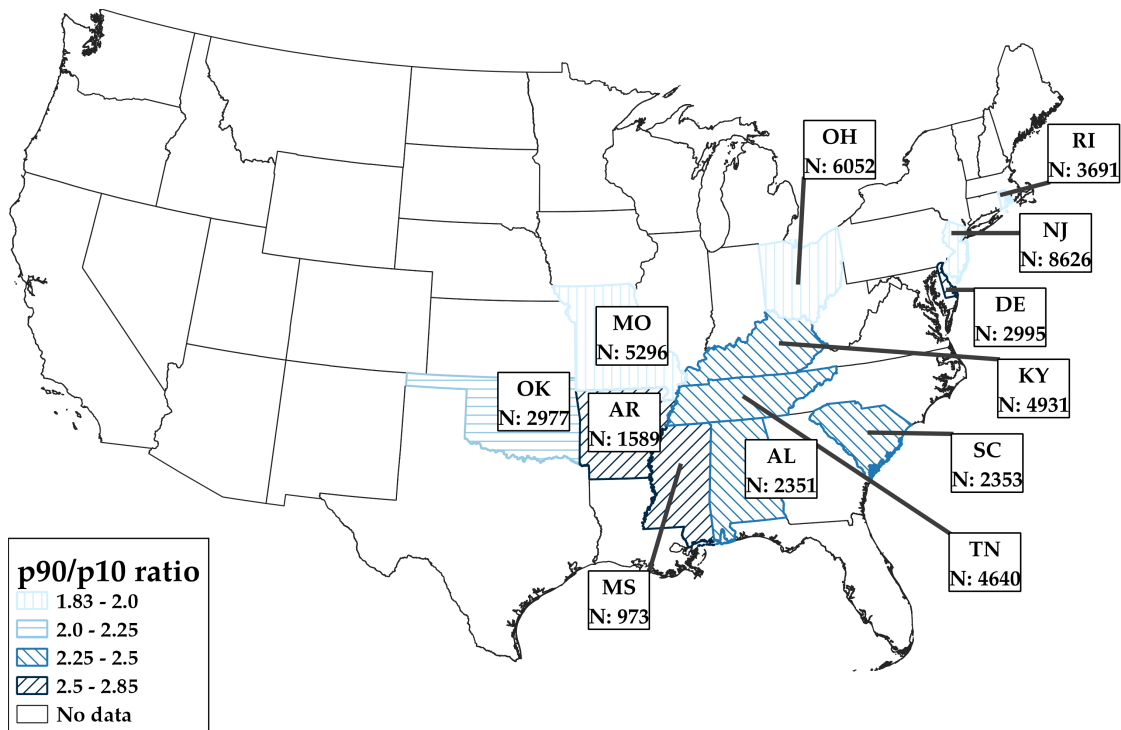
There was therefore about a 50% wage premium for women working in the North relative to the South. This mirrors the findings for male workers that North-South wage divides were large and persistent from the late nineteenth century until the mid-twentieth century ([Rosenbloom, 1996](#)). Yet the economic history of US women's wages has predominantly used the nationally-aggregated data from the NICB, meaning that these geographic divides have been largely overlooked.

¹⁷It is worth remarking that Rhode Island was - like most Northern states - a high-wage state, with a median wage level of \$14.88 per week. However, the Rhode Island report may have been less representative than other surveys in our database, as the Women's Bureau failed to include the textile industry, creating a bias towards higher-wage industries ([US DOL Women's Bureau, 1922b, 2](#); [Pidgeon, 1931, 31](#)).

Figure 2: Weekly wage rates for female workers in 1920s US, state level



(a) Wage levels (median)



(b) Wage inequality (p_{90}/p_{10})

Source: Authors' database, based on the Women's Bureau surveys.

Second, Figure 2(b) shows our new evidence on within-state female wage inequality, as measured by the 90-10 ratio (the ratio of the 90th to the 10th percentile of wages). Not only were median wages lower in the Southern states, but wage inequality was also markedly higher in these states. In all non-Southern (Northern or Midwestern) states except Delaware we find a p_{90}/p_{10} ratio of below 2.00, meaning that women at the 90th percentile of wages earned less than double those at the 10th percentile. For all Southern states this ratio is well above 2.00.

States vary in both their industrial composition and in the racial composition of the workers surveyed in that state.¹⁸ We discuss the intersection of state and industry variation in wages below. Regarding the racial composition of states, we note that in the Southern states, though we have many wage observations for Black women, the majority of wage data collected were from white workers. Delaware, which has high wage inequality, was the state with the highest share of white workers of the ten states for which the Women's Bureau presented data on race. This suggests that other characteristics such as marital status, industry mix, or job amenities also played a role in wage inequality.

4.3 Industry-level variation in wages

How much did women's wages vary across industries? We are somewhat limited in exploring this question by the fact that the Women's Bureau surveyed the major industries in which women worked in each state, which meant they did not survey all of the *same* industries in every state.¹⁹ We are aided, though, by a unique feature of our data: for each industry in a state, the Women's Bureau reports provide the full distribution of wages for women working in that industry. Therefore, even for industries in which data were only collected in a single state, we have an accurate picture of the distribution of wages in that industry.

¹⁸With the exception of Arkansas, one dimension in which states did not differ is that they had no wage minimum laws for women.

¹⁹The Women's Bureau reported wages both at an aggregated industrial level (e.g. "Retailing"), as well as at a more fine-grained level (e.g. "Textiles - cotton goods", "Clothing - men's shirts"). In these descriptive comparisons, we use the aggregated industrial classification, as the micro-level classification was not consistently implemented across the different reports. A full list of industries, both at the fine-grained and aggregate level, can be found in Table A2 in Appendix A.

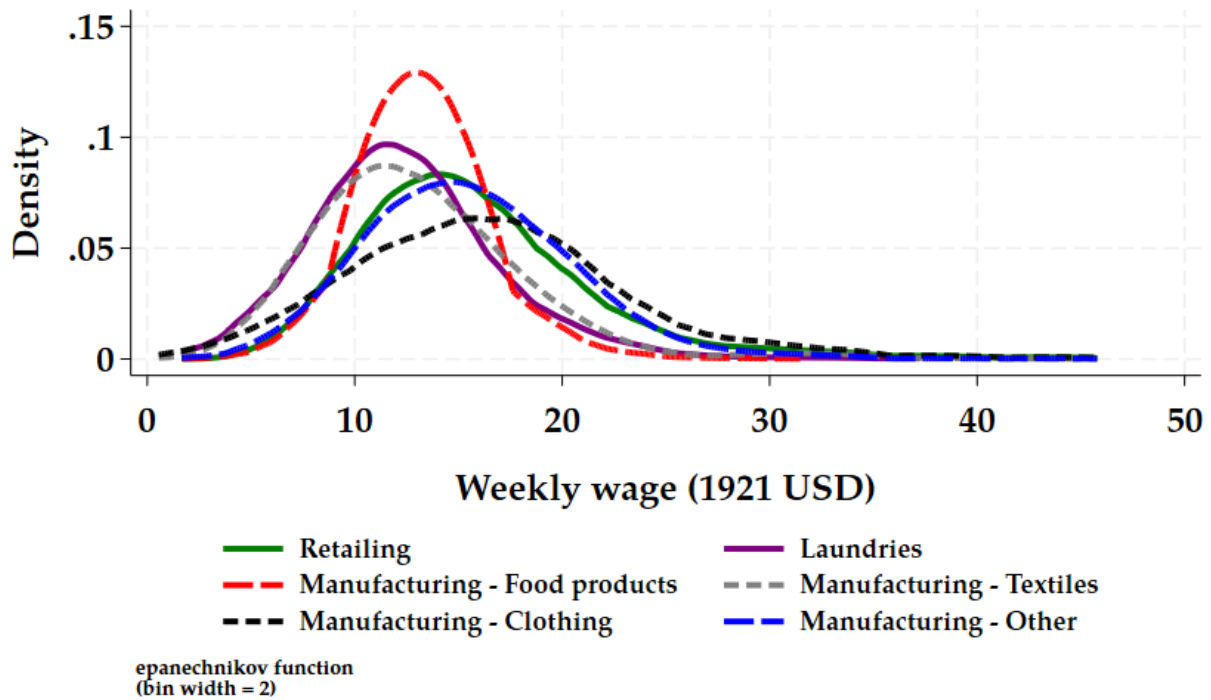
The broader trends can be explored by grouping industries into six major categories common across all states: retailing, laundries, manufacturing of textiles, manufacturing of clothing, food manufacturing, and other manufacturing. Figure 3 shows how the wage distribution varies across these industry groups. To represent these distributions in a consistent manner, we employed the Epanechnikov kernel density estimation method, using a bin width of 2.²⁰ The central tendency of the distribution illustrates the level of wages, while the width of the distribution illustrates the within-industry variance of wages (the inequality).

Figure 3 shows that the groups of industries differed in both their wage levels and in the variance of wages paid. For example, we find that the manufacturing of clothing, while characterized by high median wages (with the median woman in clothing manufacturing earning about \$16.50 per week), also had substantially higher within-industry inequality. This could be the result of segmentation between mass production and fashion clothing. The distribution is narrower for laundry services, food manufacturing and textile manufacturing, possibly attributable to smaller ranges of skills required to work in these industries, or smaller differences in productivity between firms using similar technology. These groups of industries had lower median wages of \$11.95, \$13.16 and \$12.56 per week, respectively — markedly lower than the median wages in other manufacturing industries. The differing distributions of wages by industry highlight the importance of shifting from a focus only on the average wage to a consideration of the entire distribution of wages earned by women workers.

Does all of the aforementioned geographic variation result from this industrial variation in wage distribution characteristics? We approach this question from two angles. First, we decompose the variance in female wages into the geographic and industrial components. We find that about 10.77% of wage variance is explained by differences across states, while wage variation across aggregate industries only explains about 6.13% of total wage variance. As such, regional differences were a more important determinant of

²⁰The bin width of 2 balances oversmoothing, which hides detail, and undersmoothing, which adds noise. In Figure A2 in Appendix C, we repeat this exercise for the US Census regions, underlining our earlier conclusion on the markedly different wage distributions in the Southern states.

Figure 3: Distribution of female wages (weekly rates) in 1920s US, industry level



Source: Authors' database, based on the Women's Bureau surveys.

wage inequality in 1920s US. Second, in Figure A3 in Appendix C, we plot geographic differences in median wage rates across two key employers of women that were present in all states: commerce and laundries. This exercise reveals that there is still an observable North-South divide in women's wages. This suggests that there is more driving regional wage differentials than just industry mix.

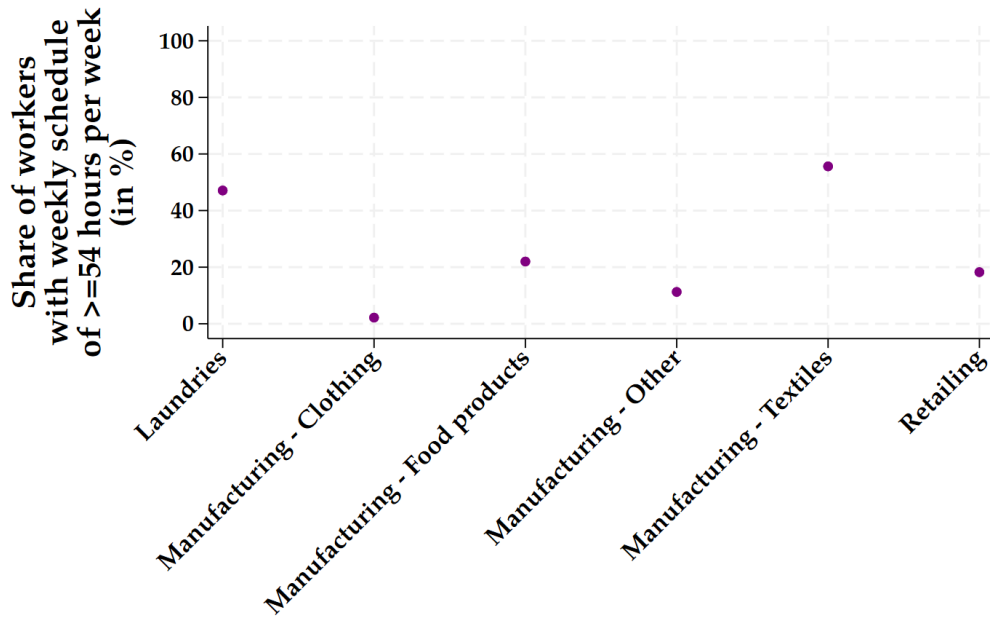
Taken together, these results suggest substantial variation in the labor market experiences of the "working few" among American women in the 1920s. Both the level and distribution of wages varied significantly across states and across industries.

4.4 Variation in working hours and job quality by industry

In addition to wages, job quality perspectives propose incorporating further aspects of working conditions to holistically evaluate workers' job experience, rewards, and the disutilities of work. There is some prior qualitative evidence that working women in this period

experienced poor physical work conditions in repetitive manual occupations (US DOL Women’s Bureau, 1931, 4) and that work discipline, almost invariably from male supervisors, was enforced more frequently and harshly against women (Tentler, 1979). In this section, we present new evidence on job quality obtained from the state-level Women’s Bureau reports, considering this evidence using the job quality perspectives noted in the introduction (Green & Mostafa, 2012; Schneider, in press). Our new evidence includes quantitative information on differences in work schedules and the consistency of work by industry, as well as qualitative evidence on the physical settings in which women worked drawn from the text of the reports.

Figure 4: Prevalence of long working weeks for female workers in 1920s US, by industry

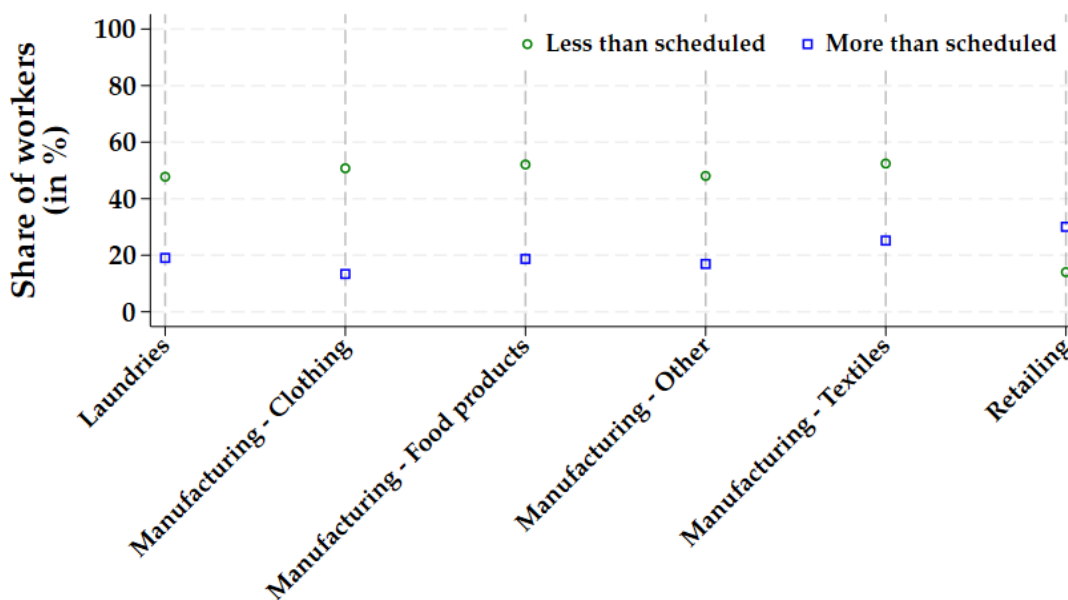


Source: Authors’ database, based on the Women’s Bureau surveys.

Our first finding is that beyond compensation, working conditions were also heterogeneous among surveyed women. Figure 4 shows how one crucial dimension of working conditions—weekly working time—varied across industry categories. Variation in working time by industry category was pronounced, as in some industries more than 40% of the surveyed women worked for more than 54 hours per week, while in other industries

almost no one worked in excess of 54 hours per week.²¹ The longest working weeks were found in the textile manufacturing sector, where about 60% of women worked for more than 54 hours per week.

Figure 5: Working more and less hours than scheduled for female workers in 1920s US, by industry



Source: Authors' database, based on the Women's Bureau surveys.

Figure 5 shows that industries also varied in the extent to which women worked a consistent schedule. For example, in the retailing industries, women very rarely worked less than scheduled relative to other industries, and more frequently worked more than scheduled. In contrast, in food products manufacturing, over half of women worked less than scheduled while almost a fifth were working more than scheduled. Inconsistencies in work schedules are key measure of job quality that has otherwise been overlooked in this period, yet varied significantly across industries.²²

²¹We use this cutoff for reasons of data availability: it is the only measure which is consistently available across the Women's Bureau reports. However, it also aligns with current perceptions, as the OECD Job Quality Framework defines "long working hours" as more than 50 hours per week (Cazes, Hijzen, & Saint-Martin, 2015).

²²Note that in the next section, our wage measure is the scheduled weekly wage, not the actual wage. This means that fluctuations in work hours due to inconsistent work arrangements do not impact our wage estimates.

Job quality also incorporates other elements such as physical safety, work environment, autonomy and control, and work intensity that are more challenging to quantify. Fortunately, the Women's Bureau collected a wealth of qualitative evidence of working conditions for 10 of the 13 states in addition to the quantitative evidence discussed above.²³ The Women's Bureau focused on identifying deficiencies to make specific recommendations for legislators and employers in each state, but some of this qualitative evidence can be compared across states. Most reports covered ventilation, heating, seating or ergonomics, cleanliness, lighting, occupational hazards and strain, washing facilities, toilets, available rest areas, and first aid or medical facilities. Fire safety was a larger focus in the early reports, and detailed compilations of toilet suitability appeared in the later reports.

Some industries were singled out negatively in the Women's Bureau reports. The main two were laundries and textile mills, which had cramped and poorly-arranged work apparatus ([US DOL Women's Bureau, 1922a](#), 43). Both, but particularly laundries, also had excessively hot and humid conditions ([US DOL Women's Bureau, 1922a](#), [1923a](#), [1924a](#)) and poor washing facilities for workers ([US DOL Women's Bureau, 1926a](#)). Sanitation was reported as poorer in these two sectors, particularly on account of the lack of cleaning supplies ([US DOL Women's Bureau, 1924a](#), 6).

Machinery and power transfer mechanisms in older manufacturing plants were frequently exposed, raising risks of injury ([US DOL Women's Bureau, 1923c](#), 60), especially in textile mills ([US DOL Women's Bureau, 1924a](#), 32). Textile mills were also noted for their very high prevalence of night work ([US DOL Women's Bureau, 1924a](#), 16–17). Ergonomic factors such as lack of seating were noted in a number of industries; again textiles and laundries were identified as particularly poor ([US DOL Women's Bureau, 1923c](#), 58–59).

These two sectors were not the only industries in which establishments had a poor physical environment: very cold workrooms were noted in candymaking and woodworking ([US DOL Women's Bureau, 1922a](#), [1923b](#), [1923c](#), [1927c](#)). Canning was a highly sea-

²³The reports on Missouri, New Jersey, and Ohio did not include a section on working conditions, and the report on Alabama provided little quantitative detail.

sonal industry with low minimum efficient scale, which led to the use of many poorly-constructed shanty-type establishments adjoining rivers for easy disposal of waste. This left workers partly exposed to the elements (US DOL Women’s Bureau, 1927b, 74), and these establishments had very poor toilet facilities (US DOL Women’s Bureau, 1927b, 83–84).

Some public-facing sectors such as hotels, restaurants, and stores had superior cleanliness (US DOL Women’s Bureau, 1926b, 59), although such findings were not universal (US DOL Women’s Bureau, 1927b, 101). Plants for “new industries” such as rubber and electrical manufacturing had superior working environments compared to older textile establishments (US DOL Women’s Bureau, 1922b, 5). Stores could have reasonable environments in the customer-facing areas, but poor ventilation and lighting in employee-only areas (US DOL Women’s Bureau, 1924a, 23). The Women’s Bureau was very interested in the quality of seating provided to workers, as without it they would have to stand for their entire shift. Such a situation was common, as shown by the number of establishments with no or inadequate seating in Appendix Table A6. The one industry that did not fit this picture was telephony, in which “a suitable seat was provided for every operator” (US DOL Women’s Bureau, 1926b, 63). However, job characteristics such as weekend and holiday work in telephony, combined with cultural expectations for childcaring, made married women’s employment in such sectors unusual (US DOL Women’s Bureau, 1923b).

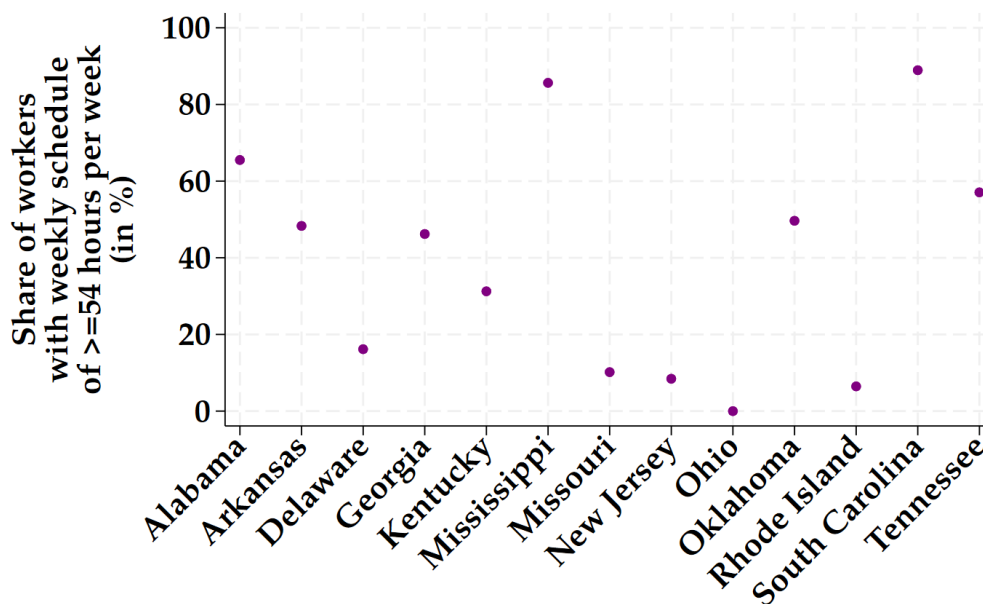
Overall, we find stark differences in both quantitative and qualitative aspects of job quality between industries. These differences complicate, and potentially amplify, the wage differences between industries we identify above, which we take up below in more detail.

4.5 Variation in working hours and job quality by state

Turning to the quantitative evidence by state in Figure 6, we find strong regional variation in the prevalence of long working weeks. In the Southern states of Alabama, Mississippi, and South Carolina, a much larger share of women worked over 54 hours per week. These women were subject to less restrictive working hours laws, or, in the case of Alabama, had

no restriction on working hours. We note that these same states with long working weeks also had the lowest median wages and highest within-state wage inequality (Figure 2).

Figure 6: Prevalence of long working weeks for female workers in 1920s US, by state

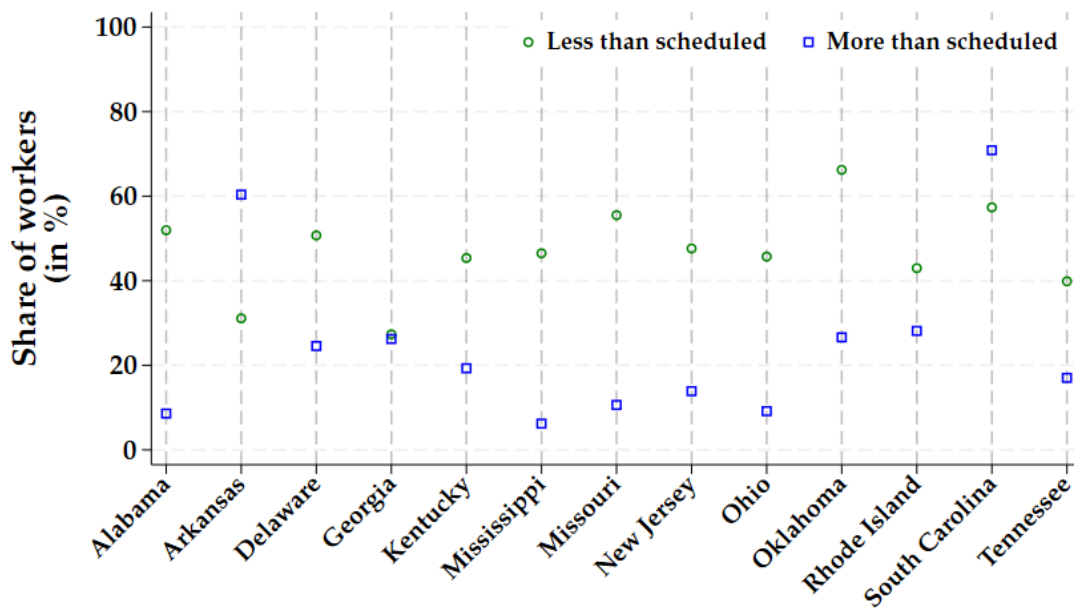


Source: Authors’ database, based on the Women’s Bureau surveys.

States also varied widely in the share of women working more or less than their scheduled hours – our measure of work consistency – given in Figure 7. In Alabama, many women worked less than their scheduled hours (over half), while few worked more than their scheduled hours. In South Carolina, over half of respondents reported working more than scheduled, and over half reported working less than scheduled (respondents could choose both). Arkansas stands out for having a greater share of women working more than their scheduled hours rather than less.

While it is more difficult to generalize about state-level differences in job quality from the qualitative evidence, the Women’s Bureau had more favorable comments about working conditions in Northern states such as Rhode Island than Southern states like Georgia (US DOL Women’s Bureau, 1922a, 1922b). Mississippi was also noted for poor conditions, with the report stating that “conditions of employment were not high throughout the State as a whole” (US DOL Women’s Bureau, 1926a, 29). The evidence for inter-state

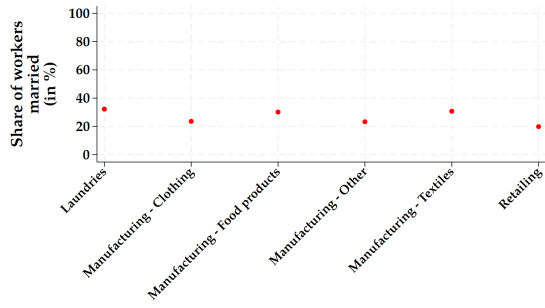
Figure 7: Working more and less hours than scheduled for female workers in 1920s US, by state



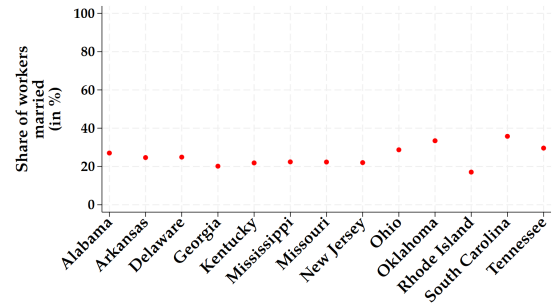
Source: Authors' database, based on the Women's Bureau surveys.

and regional variation is not as strong as inter-industry differences, largely because the Women's Bureau avoided direct comparisons between states and did not report on working conditions in New Jersey or Ohio. However, there is some evidence that non-wage, non-hours dimensions of job quality were poorer in Southern states. If so, this would compound the industry differences in dimensions of work quality and imply that quality-of-life differences resulting from work, which we partially capture through wage and hours differentials, were in fact larger than we estimate.

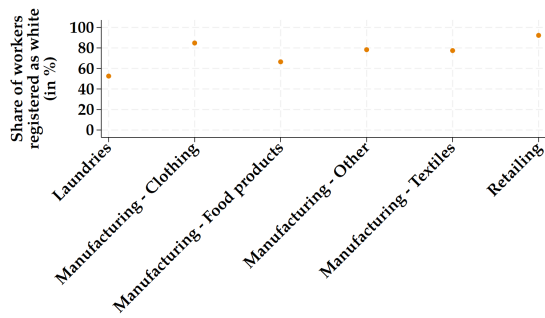
Figure 8: Demographic characteristics of female workers in Women’s Bureau surveys



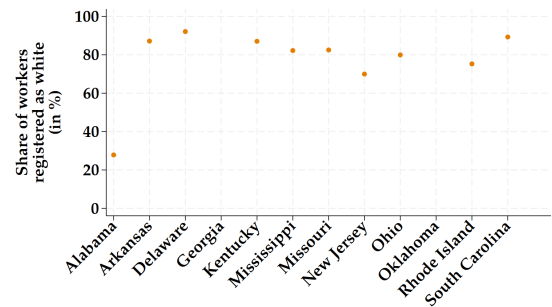
(a) Marital status, industry level



(b) Marital status, state level



(c) Race, industry level



(d) Race, state level

Source: Authors’ database, based on the Women’s Bureau surveys.

4.6 Demographic variation

Finally, we briefly address the richness of the Women’s Bureau surveys in terms of demographic information. Figure 8 presents the average share of women who were married and white by industry group and state. A clear picture emerges: the typical working woman in 1920s US sampled by the Women’s Bureau was white and non-married.²⁴

These averages, however, hide substantial variation across both industries and states. For example, when we break down the racial composition of our sample for the industry of laundries by state, we find that in some states, like Delaware and Rhode Island, all laundry workers were white. On the other hand, for states like Alabama and South Carolina, a very

²⁴One outlier is Alabama, where the majority of sampled women for which we could retrieve demographic information were Black. This is to some extent a statistical artifact, however, as the demographic information for Alabama was only reported for a handful of industries, including the laundries industry which was predominantly employing Black women.

large majority of women employed in the laundries industry were Black (see Figure A4 in Appendix C). We also present a more disaggregated picture of the racial composition of our Missouri sample, showing stark variation in the racial structure across industries (see Figure A5 in Appendix C).²⁵

5 Correlates of industry-state level wages

The previous section has shown significant variation in wage levels, wage distributions, non-wage dimensions of job quality, and the demographic composition of women workers by industry and state. From these descriptive results, women appear to have earned lower weekly wages in the industries with longer weekly hours, with poor wages and other aspects of job quality in the South relative to the North. We can further explore these relationships by correlating wages with job quality and with the demographic information we have on workers in each industry using regressions that control for many factors.

5.1 Job quality

First, we correlate wages with the dimensions of job quality for which we have quantitative evidence using data on work schedules, the consistency of work, and occupational safety. For work schedules, we have the count of women in the industry working specific ranges of hours per day and per week, whether the women worked on Saturday, and the length of their lunch period from the Women's Bureau data. We also have data on the consistency of work: how many women were working more or less than their scheduled hours, and, from the Census, whether the industry was growing or shrinking. Lastly, we have the average injury rate for the industry to capture occupational safety.

We compute these correlations with a simple hedonic model of wages at the industry and state level, where the outcome variable is a percentile of the wage distribution for that

²⁵Our ability to fully explore the interaction of race, wages, and working conditions is limited because reported wages and working conditions were rarely disaggregated by race.

industry in that state,

$$\log pWeekRate_i = \beta_0 + \gamma'S + \zeta'C + \beta_1 OccDanger_i + \beta_2 EstSize_i + \beta_3 \log IndSize_i + \alpha_r + \epsilon_i,$$

where $pWeekRate$ is the median or the 10th, 25th, 75th, and 90th percentile of the wage distribution for the industry-state (i). S is a vector of work schedule covariates computed as shares of all women working in the industry in the state. These include the hours in a day of work, the hours in a week of work, whether they worked on Saturday, and the length of their lunch break, if any. C is a vector of work consistency covariates including if they worked more or less than their scheduled hours and the growth of the industry in terms of employment share among all workers from the 1920 to the 1930 Census.

$OccDanger$ is the average injury rate for the industry from the 1927 “Industrial Accidents to Women in New Jersey, Ohio, and Wisconsin” report. $EstSize$ is the average number of women workers per establishment surveyed in the state-industry by the Women’s Bureau. $IndSize$ is the number of total women working in the industry in the state (among all establishments).²⁶ α_r are fixed effects for region (South, Midwest, and Northeast), which capture region-specific differentials in productivity, amenities, and cost of living.

We estimate this model for the median wage in each industry in each state and for the 10th, 25th, 75th, and 90th percentiles of the wage to see how the correlations change at different points in the wage distribution.

Table 1 presents the correlations. The strongest correlations appear to be between weekly work schedule and weekly wage. For the median wage, Column 3 shows that a 10 percentage point increase in the share of women working at least 54 hours per week (rather than between 48-54 hours per week) is associated with a 1.67 percent decrease in the median wage, with the effects getting larger at higher ends of the distribution (Columns 4 and 5). This means that industries with a larger share of women working more than 54 hours per week had especially low relative wages at the top end of the (weekly) wage distribution. In contrast, a 10 percentage point increase in the share of women working

²⁶This is distinct from the total number of workers in the industry, as the number of men or juveniles working was not provided in all of the Women’s Bureau reports.

48 hours or fewer is associated with a 1.53 percent increase in the median wage. Therefore, if a greater share of women in the industry were working longer hours, wages in that industry were generally lower. The coefficient on Saturday hours is also significant and goes in the same direction — a 10 percentage point increase in the share of women in the industry working on Saturday is associated with a 2.27 percent decrease in the median wage (Column 3), with the effects most significant at the lower end of the distribution. A greater share of women working longer hours in a week in any fashion thus appears to be associated with lower median wages.

Table 1 shows no significant relationships between wages and the consistency of work, industry growth, occupational danger, or industry size, though this may be because of the small industry-state sample.

Longer work schedules are associated with lower weekly wages, indicating that the lowest quality jobs were associated with the lowest wage. While the job quality dimensions captured in Table 1 represent only those for which we have quantitative data, the qualitative evidence presented in the previous section is consistent with this section's findings. The qualitative evidence shows that workers in some high-wage sectors like telephones experienced a superior work environment than workers in some low-wage sectors such as laundries and textile manufacturing. Higher-paid retail workers may also have had greater autonomy and lower work intensity as they were not in machine-paced work and could have conversations with colleagues, another aspect of job quality which is difficult to capture quantitatively. This qualitative evidence suggests that even though some aspects of job quality cannot be included in these regressions, these aspects would be correlated and in the same direction to those we do observe. As such, we argue that these unmeasured indicators of job quality do not invalidate our conclusion that adverse working conditions were uncorrelated or negatively correlated with wage levels across the distribution.

5.2 Demographics

We can also explore how demographic factors such as age, marital status, race, and living arrangements correlate to the median and other percentiles of industry-state wages. We

Table 1: Industry Characteristics

	(1)	(2)	(3)	(4)	(5)
	10th	25th	50th	75th	90th
	Percentile	Percentile	Percentile	Percentile	Percentile
% Daily Hours: > 9	-0.00099 (-1.14)	-0.00106 (-1.13)	-0.00077 (-0.75)	-0.00085 (-0.96)	-0.00098 (-0.90)
% Weekly Hours: <= 48	0.00084 (1.50)	0.00096 (1.51)	0.00153** (2.57)	0.00108 (1.64)	0.00120 (1.36)
% Weekly Hours: >= 54	0.00001 (0.03)	-0.00091* (-2.07)	-0.00167*** (-4.29)	-0.00222*** (-5.25)	-0.00237*** (-3.88)
% Saturday Hours: > 0	-0.00577*** (-3.30)	-0.00378** (-2.44)	-0.00227* (-2.24)	0.00022 (0.10)	-0.00000 (-0.00)
% Lunch Minutes: No time	0.11532** (2.85)	0.01916 (0.60)	0.02200 (0.64)	-0.01704 (-0.57)	-0.03015 (-1.20)
% Lunch Minutes: > 30	-0.00101 (-1.60)	-0.00045 (-0.61)	-0.00019 (-0.25)	-0.00048 (-0.69)	-0.00023 (-0.32)
% Working More Than Sch.	-0.00055 (-0.87)	-0.00023 (-0.44)	-0.00037 (-0.94)	0.00028 (0.50)	0.00066 (1.14)
% Working Less Than Sch.	-0.00050 (-0.35)	-0.00040 (-0.30)	0.00043 (0.36)	0.00029 (0.22)	0.00049 (0.40)
Ind. Growth 1920–1930	-0.01288 (-0.52)	-0.00727 (-0.27)	0.00092 (0.04)	0.01342 (0.76)	0.00990 (0.50)
Occupational Danger	0.00354 (1.73)	0.00201 (1.38)	-0.00044 (-0.46)	-0.00174 (-1.42)	-0.00068 (-0.39)
Avg. Num. Women per Establishment	0.00016 (0.55)	0.00002 (0.09)	0.00003 (0.15)	-0.00007 (-0.32)	-0.00002 (-0.10)
Log Ind. Size (Women)	-0.00995 (-0.56)	0.00994 (0.51)	0.01843 (1.00)	0.01679 (1.29)	0.03694* (2.09)
Midwest	0.23194** (2.84)	0.14745* (2.14)	0.07141 (1.07)	0.02556 (0.49)	-0.01737 (-0.39)
Northeast	0.29551*** (4.36)	0.21146*** (3.68)	0.11810* (2.03)	0.09649* (1.90)	0.05307 (1.22)
Constant	2.89053*** (12.19)	2.74373*** (11.71)	2.70422*** (16.74)	2.70919*** (9.88)	2.72143*** (6.77)
Num. of observations	143	143	143	143	143
Num. of states	10	10	10	10	10
Adj. R2	0.41	0.37	0.37	0.32	0.31

Notes: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Estimated with robust standard errors clustered at the state level. T-statistic in parentheses. Each column has a different quantile of the industry-state wage distribution as the dependent variable.

estimate these correlations with the model,

$$\log pWeekRate_i = \delta_0 + \theta' A + \eta' D + \delta_2 FemShare_i + \delta_3 Feminization_i + \alpha_r + \epsilon_i,$$

where A is a vector of age dummies and D is a vector of demographic characteristics, all computed as shares of the women working in the industry in the state. D includes the dimensions of marital status, whether they lived independently (not at home or with relatives), and race including white, Black, and foreign-born.²⁷ Foreign-born workers were primarily immigrants from Europe who had arrived in the United States before the introduction of immigration restrictions in 1917 and 1924. $FemShare_i$ is the share of workers in the industry that were female in the 1920 Census. $Feminization_i$ captures the extent to which the female share of the workforce in an industry was increasing or decreasing from the 1920 to the 1930 Census. As above, α_r are fixed effects for region (South, Midwest, and Northeast).

Again, we estimate this model for the median wage in each industry in each state and for the 10th, 25th, 75th, and 95th percentiles of the wage to see how the correlations change at different points in the wage distribution.

Table 2 presents the correlations for the demographic characteristics of industries and weekly wages at different points in the wage distribution. Overall, the demographic variables seem more strongly correlated to the weekly wage of the industry than the data capturing aspects of job quality.

While not all of the age coefficients are significant, there is evidence of a wage profile with age. As the share of workers older than 30 increases, the weekly wage also increases, while as the share of workers younger than 18 increases, the median wage decreases. Focusing on the medians in Column 3, as the share of workers aged 30-50 increases by 10 percentage points, the median wage increases by 7.23 percent. This generally accords with Goldin (1980) who suggested that women who remained working benefited from experience premiums.

In all of the specifications, marital status is important. For a 10 percentage point increase in the share of women workers who are married instead of single, the median wage falls by 5.81 percent. This effect is even larger at lower points in the wage distribution,

²⁷These are the classifications in the Women's Bureau reports. We assume foreign-born may have been recent immigrants of any race.

Table 2: Demographic Characteristics

	(1)	(2)	(3)	(4)	(5)
	10th	25th	50th	75th	90th
	Percentile	Percentile	Percentile	Percentile	Percentile
% Age: < 18	-0.00600** (-3.01)	-0.00764* (-1.89)	-0.00626 (-1.84)	-0.00747** (-2.68)	-0.00667** (-2.48)
% Age: 30-50	0.00360** (2.41)	0.00518 (1.74)	0.00723** (3.15)	0.00645** (2.65)	0.01039*** (3.62)
% Age: > 50	-0.00149 (-0.33)	-0.00084 (-0.20)	0.00022 (0.04)	0.00237 (0.48)	-0.00032 (-0.05)
% Marital: Married	-0.00835*** (-6.75)	-0.00822*** (-4.70)	-0.00581* (-2.10)	-0.00488* (-2.17)	-0.00683* (-2.07)
% Marital: Separated	0.00269 (1.05)	0.00041 (0.13)	-0.00256 (-0.69)	-0.00354 (-0.95)	-0.00318 (-0.93)
% Living Situation: Independent	-0.00309 (-0.47)	-0.00049 (-0.09)	0.00244 (0.53)	0.00483 (1.38)	0.00063 (0.19)
% Race: Black	-0.00384* (-2.03)	-0.00488** (-3.29)	-0.00432** (-3.03)	-0.00554*** (-3.85)	-0.00497*** (-3.51)
% Race: Foreign	0.00256 (1.61)	0.00306 (1.12)	0.00198 (0.57)	0.00248 (0.89)	0.00126 (0.39)
Female Share of Ind. in 1920	-0.00210 (-1.55)	-0.00150 (-1.60)	-0.00050 (-0.66)	-0.00020 (-0.23)	0.00097 (1.02)
Change in Female Share 1920–1930	-0.00517** (-2.74)	-0.00157 (-0.69)	-0.00264 (-0.86)	-0.00309 (-1.13)	-0.00290 (-1.03)
Midwest	0.33545*** (6.94)	0.26644*** (5.28)	0.20882*** (3.62)	0.13450* (2.13)	0.15071 (1.81)
Northeast	0.34541*** (12.66)	0.27401*** (4.71)	0.25628*** (3.46)	0.17590** (2.69)	0.19195** (2.42)
Constant	2.41329*** (24.80)	2.54118*** (16.66)	2.57019*** (18.38)	2.76663*** (18.36)	2.84479*** (18.32)
Num. of observations	112	112	112	112	112
Num. of states	9	9	9	9	9
Adj. R2	0.64	0.60	0.53	0.51	0.46

Notes: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Estimated with robust standard errors clustered at the state level. T-statistic in parentheses. For the age variables, the percentage at least 18 and under 30 is the reference category. For marital status, the reference category is the % single. For race and immigration status, the reference category is native white workers. Each column has a different quantile of the industry-state wage distribution as the dependent variable.

falling by 8.35 percent at the 10th percentile of wage, which suggests stronger wage impacts for married women in lower paid work. There are no comparable differences between the share of women separated relative to the share single. Married women either faced a wage penalty or were more concentrated in lower-paying industries than single women.

How can we understand these results for married women? Labor historians have highlighted that for white women, married women's work at this time was most prevalent among poorer families.²⁸ Such married white women may have been forced to take low-wage, low-quality jobs out of necessity, while young, single white women may have been more likely to have the time and resources to find work in one of the better-paid industries in our sample. As discussed in the qualitative evidence above, the Women's Bureau reports did suggest that married women who needed to work out of economic necessity were faced with few immediate employment options so had to accept work with lower wages and longer hours.

Industries also varied in terms of their racial and immigrant compositions. Across the wage distribution, industries with a greater share of Black workers relative to white workers had lower wages. At the median, increasing the share of Black workers by 10 percentage points relative to white workers is associated with an estimated 4.32 percent decrease in median wages. The effects are prominent across the wage distribution, though strongest at the upper end of the distribution, and all of the coefficients are significant. For a 10 percentage point increase in the share of Black workers, wages decrease by 3.84 percent at the 10th percentile (Column 1) and by 4.97 percent at the 90th percentile (Column 5). That Black women's wages were held down by occupational segregation and wage discrimination is a well-understood explanation for these results ([Sundstrom, 2007](#)).

Looking at the share of foreign-born workers relative to native-born white workers, there were no significant impacts on wages at any point in the distribution. Again this may be because of the small sample. With this in mind, we also note that the share of women in the industry in the Census, and changes in the share of women from 1920 to 1930, do not significantly correlate with the wages. Nor does the living situation of the workers – the share living independently or with family – after controlling for age and marital status.

For regions, the wage advantage of the Midwest and the Northeast relative to the South is greatest and most statistically significant at the lower end of the wage distribution.

²⁸[Tentler \(1979, p. 139\)](#) writes that “employment for the wife was not the norm but generally a signal of family economic crisis.”

This can be seen in the coefficients on Midwest and Northeast in both Table 1 and Table 2.

Taken together, what is most striking about these correlations is that the demographic composition of an industry was as significant, or perhaps even more significant, than measures of job quality. In contrast to theories of compensating differentials, the strongest patterns on job quality point to women who worked more hours in a week taking home less weekly pay, which suggests many women may have been income targeting or working in the secondary labor market. The demographic composition of an industry, especially in terms of race and marital status, strongly correlates with wages, suggesting labor markets were segmented along these lines.

These inequalities that are driven by differences in job quality and demographics across states and industries are hidden by national averages. This is further evidence of how critical it is to take a disaggregated approach to women's work and wages in this period.

6 Female labor market equilibria

As a final step, we can now use our new data on regional wages and job quality indicators to better understand the equilibria in female labor markets across the US. Until now researchers have been mostly constrained to localized data on female employment (quantities). By adding information on state-level female wages (prices), we can begin to consider how the forces of labor demand and supply determine the labor market outcomes described in the previous sections. In this section, we explore how American women's labor market outcomes responded to local market conditions in terms of demand and supply shifts at the state level.

In Figure 9, we relate women's state-level labor force participation in the US 1920 Census to the median wages that women were able to earn on their state labor market, as measured by the Women's Bureau data used in this paper. In panel (a), we define labor force participation through women's employment status in the Census as "working"

in any form of non-agricultural employment.²⁹ Assuming the standard slopes for labor supply and demand, this correlation can provide suggestive evidence on whether labor market outcomes across US states were primarily determined by demand forces (a positive correlation between wages and quantities) or supply forces (a negative correlation). The positive correlation in panel (a) suggests a role for demand forces.

It is important to emphasize that while this correlation is more revealing than having information on quantities alone, it still masks shifts in both labor supply and demand which are not separately identified. For example, in Oklahoma and Mississippi, wages were vastly different (about 50% higher in the former), but female labor force participation rates were nearly identical. There are multiple potential explanations. This could reflect a market outcome in which a more outward position of labor demand (due to higher productivity) and a more inward position of labor supply in Oklahoma led to higher wages but similar quantities of labor compared to Mississippi. Alternatively, if we assume female labor supply elasticities were low in both states due to high cultural and institutional barriers to work, changes in state-level labor demand could primarily materialize in higher wages, but not higher levels of employment, with supply and demand in similar positions in both states. The historical evidence presented above suggests that this latter explanation might be more appropriate. The significant cultural and institutional barriers facing women in the 1920s likely did make their labor supply relatively inelastic to wage differences, which would explain why states like Oklahoma and Mississippi could have vastly different wages but similar participation rates.

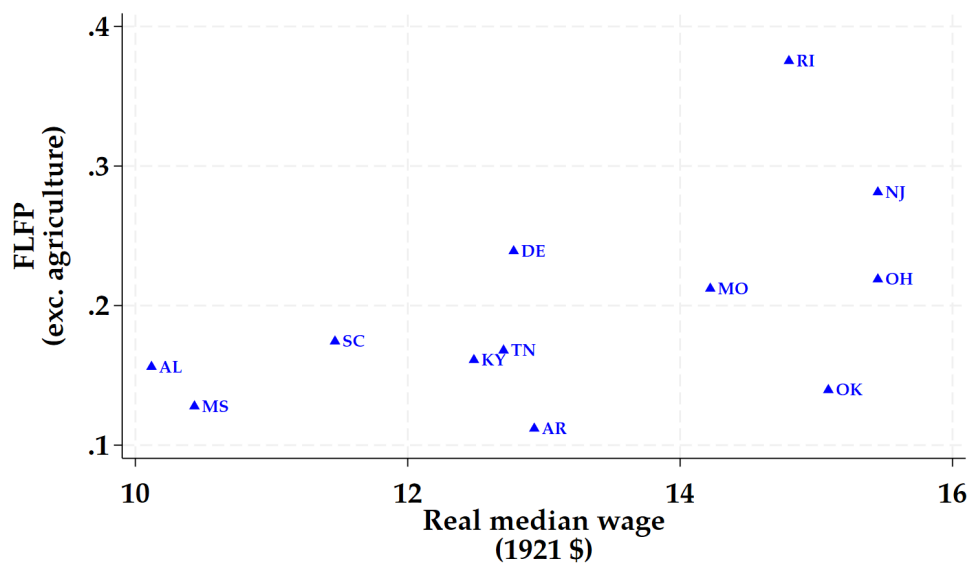
The extent of these constraints, however, was not uniform across all states. In some states (such as Delaware, New Jersey, and Rhode Island), we do find that higher wages were correlated with higher levels of female employment. This suggests that in some states, structural constraints may have been less binding and labor supply more elastic, allowing women greater ability to respond to favorable labor market conditions and to

²⁹Following a majority of the literature, we define women of working age between the ages of 16 and 65. As mentioned in the introduction, the measurement of the female labor experience in history through female labor force participation is riddled with challenges, both conceptually and in the availability of sources (Humphries & Sarasúa, 2012; Burnette, 2021, 2025). Here, we limit ourselves to the measurement of women's involvement in formal labor markets for market work.

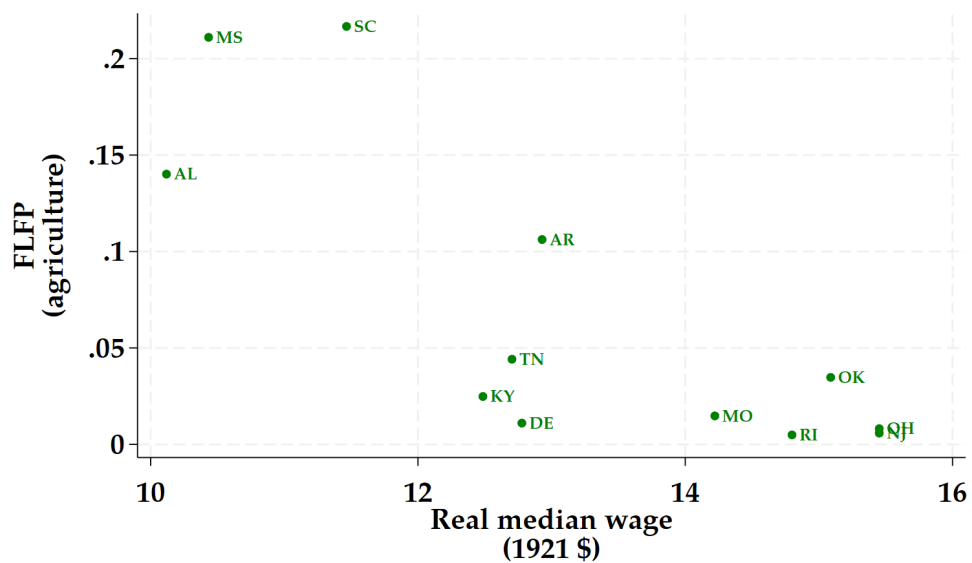
earn higher industrial wages. One additional piece of evidence suggests that bargaining power may have been a crucial ingredient in this process. Turning to Figure 9(b), we observe a potential negative impact of the presence of a large female agricultural labor force on female wages in industries and services. High levels of agricultural labor force participation, particularly in the southern states of Alabama, Mississippi and South Carolina, translated into low levels of industry and service wages (as well as the adverse working conditions we documented earlier). This pattern suggests that large pools of women in agriculture created conditions that undermined women's bargaining power in industrial employment, keeping wages and working conditions poor despite potential demand for female workers. In states without a large agricultural outside option, women's employment seems more responsive to wages.

Overall, a picture emerges in which local variations in demand shaped the fate of women on American labor markets. Local labor supply was not fully responsive to outward shifts in labor demand, or might have been even relatively inelastic, depending on the structural context. Consequently, the evidence presented in this and the previous sections points to the importance of structural constraints for women in the labor force, whether formal (e.g. labor legislation, marriage bars), informal (gender norms), or economic (the presence of a large agricultural sector), as they limited women's responsiveness to local wage levels and job quality. In conclusion, women in the 1920s US appear to have been frequently confined to the adverse working and wage conditions described in this paper.

Figure 9: Correlation between median wages and FLFP across US states, ca. 1920-1921



(a) Industries and services



(b) Agriculture

Source: Wages, Authors' database, based on the Women's Bureau surveys; FLFP: derived from the IPUMS dataset (Ruggles et al., 2024).

7 Conclusion

Information on the price of labor is essential for a complete understanding of women's labor markets in the past. In this paper, we explored women's wages in the US during the 1920s using novel data covering over 160,000 workers in 13 states. With this rich data on state-industry-level wage distributions, non-wage aspects of job quality, and the demographic composition of industries, we were able to move beyond the national aggregates of female wages which the literature has principally relied on to present a comprehensive and disaggregated picture of the price of female labor.

Despite the small share of women in formal employment, we found stark differences between states and industries in median wages, wage inequality, and other job quality dimensions such as working time. Women's wages were lower and more unequal in the South than in the Northeast, with large differences between service and manufacturing industries in wage levels and dispersion. Wages were only weakly correlated with other aspects of working conditions, meaning that some jobs were of poor quality on multiple dimensions, with low wages, long working hours, and poor working conditions. Somewhat surprisingly, the demographic composition of the industry was more strongly correlated to wages than measures of job quality. Finally, we used our state-level wage estimates in conjunction with Census data on quantities of labor to consider how differences in local labor demand and structural constraints on labor supply may have produced the wide state-level variation in pay and labor force participation that we observe. The exact influence of the labor market constraints women faced, and other potential drivers of the inequalities we have identified, are promising avenues for future research. Taken together, our findings provide evidence that many American women during this period found themselves stuck in low-quality, low-paid jobs.

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Appendices

A Data appendix

A.1 Information on Women’s Bureau surveys and our sample

In Table A1, we provide an overview of the Women’s Bureau reports which contain female wages and which form the basis of our dataset. For Georgia, the first survey conducted, the Women’s Bureau did not present information on the wage distribution. As such, Georgia is not included in the analyses of Sections 4, 5 and 6, or in Appendix Table A4. For Alabama, the Women’s Bureau did not include data on the presence or duration of lunch breaks, and the report for Rhode Island did not contain data on Saturday hours. As such, these two states are omitted from the analyses in Table 1 in Section 5. The racial breakdown of the surveyed workforce was not included in the reports for Oklahoma, Rhode Island, and Tennessee, and these three states are not included in Table 2 in Section 5.

Table A1: Descriptive table of the sampled reports of the Women’s Bureau

State & Publication year	Survey Period	Locations Surveyed (Cities/Towns)	Establishments Surveyed	Industries Surveyed	Number of Women & Girls Surveyed
Georgia	1922 May-July 1920 February-April 1921	16	131	9	9900
Rhode Island	1922 October-December 1920	7	70	9	10352
Arkansas	1923 February-March 1922	14	189	12	3117
Kentucky	1923 October-November 1921	17	154	19	10167
South Carolina	1923 November 1921-January 1922	56	151	9	11761
Alabama	1924 February-April 1922	31	131	11	5726
Missouri	1924 May-June 1922	22	174	16	17939
New Jersey	1924 September-December 1922	43	300	31	34894
Ohio	1925 September-December 1922	44	302	24	32088
Mississippi	1926 January-February 1925	25	81	8	2853
Oklahoma	1926 Spring 1924	25	172	11	4135
Delaware	1927 Late summer-Early fall 1924	29	146	15	4176
Tennessee	1927 February-May 1925	27	216	27	16596

Table A2: Concordance table of industries

Industry	Industry aggregation
Laundries	Laundries
Clothing	Manufacturing - Clothing
Clothing - felt hats	Manufacturing - Clothing
Clothing - men's	Manufacturing - Clothing
Clothing - men's shirts	Manufacturing - Clothing
Clothing - other	Manufacturing - Clothing
Clothing - overalls	Manufacturing - Clothing
Clothing - shirts and overalls	Manufacturing - Clothing
Clothing - suits	Manufacturing - Clothing
Clothing - suits and coats, men's	Manufacturing - Clothing
Clothing - suits and coats, women's	Manufacturing - Clothing
Clothing - underwear	Manufacturing - Clothing
Clothing - women's dresses and aprons	Manufacturing - Clothing
Garments	Manufacturing - Clothing
Gloves	Manufacturing - Clothing
Millinery	Manufacturing - Clothing
Shirts and overalls	Manufacturing - Clothing
Candy	Manufacturing - Food products
Food	Manufacturing - Food products
Food products	Manufacturing - Food products
Food products - bakery products	Manufacturing - Food products
Food products - other	Manufacturing - Food products
Meat, poultry and dairy products	Manufacturing - Food products
Other food products	Manufacturing - Food products
Advertising and other novelties	Manufacturing - Other
Auto tops and other canvas products	Manufacturing - Other
Boxes (wooden) and veneer	Manufacturing - Other
Boxes, paper	Manufacturing - Other
Boxes, wooden	Manufacturing - Other
Buttons	Manufacturing - Other
Chemicals and drugs	Manufacturing - Other
Cigars	Manufacturing - Other
Drugs	Manufacturing - Other

Industry	Industry aggregation
Drugs and chemicals	Manufacturing - Other
Electric products	Manufacturing - Other
Electric products - lamps	Manufacturing - Other
Electric products - other	Manufacturing - Other
Electrical manufacturing	Manufacturing - Other
Furniture	Manufacturing - Other
Glass and glass products	Manufacturing - Other
Jewelry	Manufacturing - Other
Jewelry and gold and silver ware	Manufacturing - Other
Leather (tanning)	Manufacturing - Other
Leather and leather products	Manufacturing - Other
Metal products	Manufacturing - Other
Metal shops	Manufacturing - Other
Miscellaneous	Manufacturing - Other
Miscellaneous manufacturing	Manufacturing - Other
Optical goods and scientific instruments	Manufacturing - Other
Other manufacturing	Manufacturing - Other
Paper and paper products	Manufacturing - Other
Paper boxes	Manufacturing - Other
Paper products	Manufacturing - Other
Paper-box manufacturing	Manufacturing - Other
Pencils	Manufacturing - Other
Pottery	Manufacturing - Other
Printing and publishing	Manufacturing - Other
Pulp and hard-fiber products	Manufacturing - Other
Rubber and rubber products	Manufacturing - Other
Rubber manufacturing	Manufacturing - Other
Shoes	Manufacturing - Other
Telephone exchanges	Manufacturing - Other
Telephones	Manufacturing - Other
Tobacco	Manufacturing - Other
Tobacco - cigars	Manufacturing - Other
Tobacco - other	Manufacturing - Other
Tobacco and cigars	Manufacturing - Other
Tobacco products - cigars	Manufacturing - Other

Industry	Industry aggregation
Tobacco products - other	Manufacturing - Other
Wood products	Manufacturing - Other
Wood products - boxes	Manufacturing - Other
Wood products - furniture	Manufacturing - Other
Wood products - other	Manufacturing - Other
Bags	Manufacturing - Textiles
Handkerchiefs	Manufacturing - Textiles
Hosiery and knit goods	Manufacturing - Textiles
Mattresses, tents, and awnings	Manufacturing - Textiles
Other textiles	Manufacturing - Textiles
Springs and mattresses	Manufacturing - Textiles
Textiles	Manufacturing - Textiles
Textiles - bags	Manufacturing - Textiles
Textiles - cordage	Manufacturing - Textiles
Textiles - cordage and thread	Manufacturing - Textiles
Textiles - cordage other than cotton	Manufacturing - Textiles
Textiles - cotton and woolen goods	Manufacturing - Textiles
Textiles - cotton goods	Manufacturing - Textiles
Textiles - hosiery	Manufacturing - Textiles
Textiles - hosiery and knit goods	Manufacturing - Textiles
Textiles - knit goods	Manufacturing - Textiles
Textiles - knit underwear	Manufacturing - Textiles
Textiles - other	Manufacturing - Textiles
Textiles - silk goods	Manufacturing - Textiles
Textiles - woolen goods	Manufacturing - Textiles
Textiles - yarn	Manufacturing - Textiles
Textiles - yarn and twine	Manufacturing - Textiles
Textiles - yarns	Manufacturing - Textiles
Department stores	Retailing
General mercantile	Retailing
General merchandise	Retailing
Stores - 5-and-10-cent stores	Retailing
Stores - general mercantile	Retailing

A.2 Summary statistics

Table A3: Descriptive table of the non-wage variables

Variable	Mean	Min	Max	N
% Daily Hours: > 9	29.75	0.00	100.00	185
% Weekly Hours: <= 48	29.93	0.00	100.00	185
% Weekly Hours: >= 54	28.89	0.00	100.00	185
% Saturday Hours: > 0	98.71	63.36	100.00	174
% Lunch Minutes: No time	0.01	0.00	1.73	166
% Lunch Minutes: > 30	62.59	0.00	100.00	166
% Working More Than Sch.	18.30	0.00	96.60	172
% Working Less Than Sch.	45.69	0.00	100.00	173
Ind. Growth 1920–1930	0.06	-2.33	4.04	189
Occupational Danger	11.47	1.98	57.03	189
Avg. Num. Women per Establishment	87.25	3.25	591.50	188
Log Ind. Size (Women)	6.15	2.56	9.05	189

(a) Industry characteristics

Variable	Mean	Min	Max	N
% Marital: Married	23.83	0.00	46.91	187
% Marital: Separated	16.94	1.69	42.50	187
% Living Situation: Independent	9.56	0.00	27.52	187
% Race: Black	8.33	0.00	97.21	119
% Race: Foreign	11.52	0.00	60.36	139
Female Share of Ind. in 1920	37.83	5.62	74.19	189
Change in Female Share 1920–1930	2.69	-21.91	35.22	189

(b) Demographic characteristics

Table A4: Descriptive table of the wages in the Women’s Bureau surveys

Industry	N		Weekly rate	
	Women	States	p50	p90/p10
Laundries	4148	12	11.95	2.24
Manufacturing - Clothing	3672	10	16.50	2.86
Manufacturing - Food products	4810	10	13.16	1.58
Manufacturing - Other	11104	12	14.91	2.19
Manufacturing - Textiles	6257	10	12.56	2.40
Retailing	16483	12	14.31	2.24

(a) Industry level

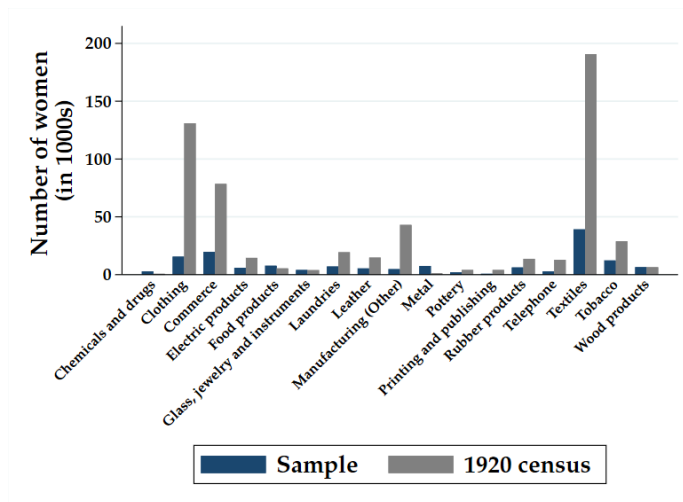
State	Region	N		Weekly rate	
		Women	Industries	p50	p90/p10
Missouri	Midwest	5296	6	14.22	1.95
Ohio	Midwest	6052	6	15.45	1.95
New Jersey	Northeast	8626	6	15.45	1.86
Rhode Island	Northeast	3691	3	14.80	1.83
Alabama	South	2351	6	10.12	2.36
Arkansas	South	1589	6	12.93	2.73
Delaware	South	2995	6	12.78	2.85
Kentucky	South	4931	6	12.49	2.33
Mississippi	South	973	6	10.43	2.69
Oklahoma	South	2977	5	15.09	2.16
South Carolina	South	2353	4	11.47	2.38
Tennessee	South	4640	6	12.70	2.40
United States		46474		13.97	2.28

(b) State and country level

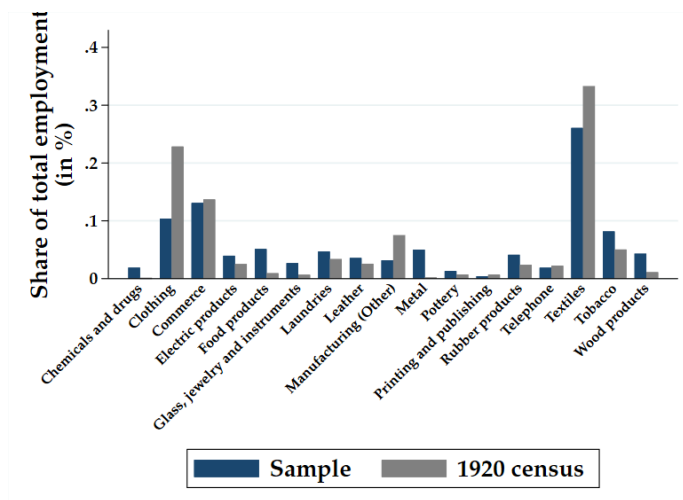
Notes: Wage rates are reported in 1921 USD.

A.3 Representativeness of the data

Figure A1: Comparison of employment in Women’s Bureau surveys and the 1920 census



(a) Absolute levels



(b) Relative levels

Source: Sample: Authors’ database, based on the Women’s Bureau surveys; Census: IPUMS ([Ruggles et al., 2024](#)).

B Historical context

Table A5: Labor legislation by state (1920s)

State	Max Hrs/Day	Max Hrs/Week	Min Work Age	Min School Age	Min Wage	Factory Insp.	Workers' Comp
Georgia	None	None	12 (1920), 14 (1921)	14	None	Yes	Yes
Rhode Island	10 (manuf. & merc.)	54 (manuf. & merc.)	14	16	None	Yes	Yes
Arkansas	9 (manuf., mech., merc., laundry, etc.)	54 (same)	14	15	Yes	No (mines only)	No
Kentucky	10	60	14	16	None	Yes	Yes
South Carolina	10	55 (textiles), 60 (other)	14	14	None	Yes	No
Alabama	None	None	14	16	None	No (mines only)	Yes
Missouri	9	54	14	16	None	Yes	No
New Jersey	10	54	14	16	None	Yes	Yes
Ohio	9	50	16	16	None	Yes	Yes
Mississippi	10 (exc. dom.)	60 (exc. dom.)	14	17	None	Yes	No
Oklahoma	9	54	16	18	None	Yes	Yes
Delaware	10 (exc. canning)	55 (exc. canning)	14	17	None	Yes	Yes
Tennessee	10	57	14	16	None	Power to inspect	Yes

Notes:

Arkansas: Minimum wage of \$1/day for workers with fewer than 6 months' experience and \$1.25/day for those with more than 6 months' experience.

South Carolina: Night work was prohibited in the mercantile sector.

Missouri: A minimum wage commission was established when the Women's Bureau survey was ongoing.

Ohio: Youth aged 16–18 were limited to 8 hours of work per day and 48 hours per week.

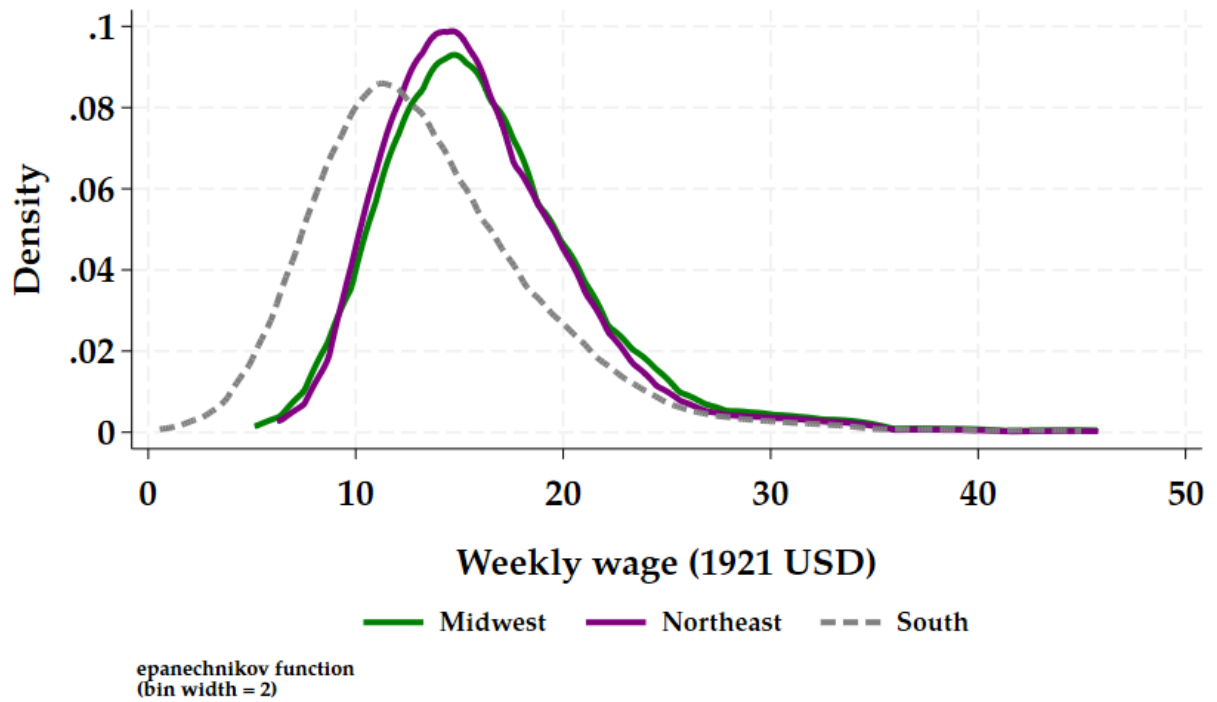
Oklahoma: Hours limits did not cover establishments with fewer than five women employed in towns with fewer than 5,000 inhabitants.

Delaware: The minimum lunch period was 30 minutes.

Source: US DOL Women's Bureau (1922a, 1922b, 1923a, 1923b, 1923c, 1924a, 1924b, 1924c, 1925, 1926a, 1926b, 1927a, 1927b, 1927c); Kentucky Bureau of Labor (1924); Tennessee Department of Labor (1925); Goldin and Katz (2011).

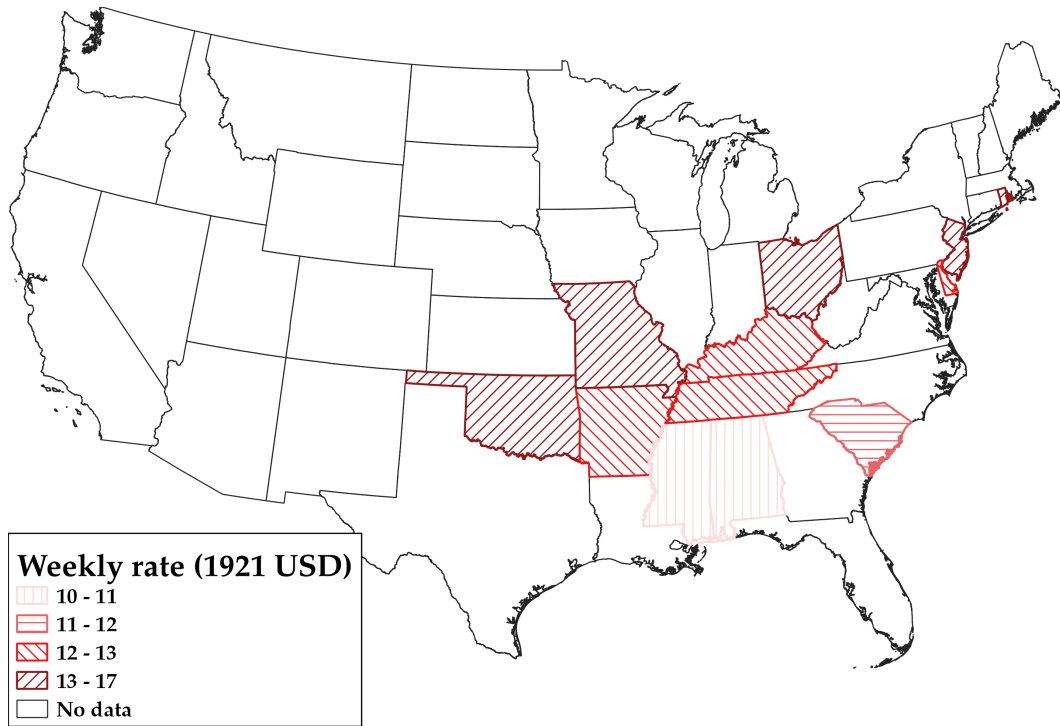
C Additional results

Figure A2: Distribution of female wages (weekly rates) in 1920s US, region level

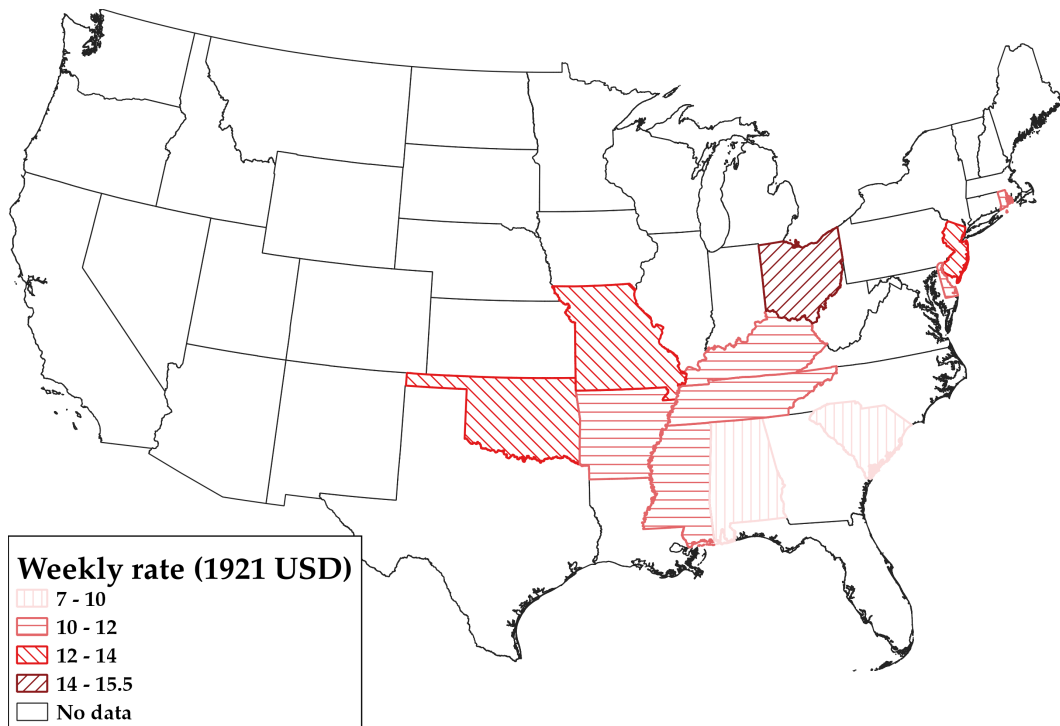


Source: Authors' database, based on the Women's Bureau surveys.

Figure A3: Weekly wage rates for female workers in 1920s US, state level



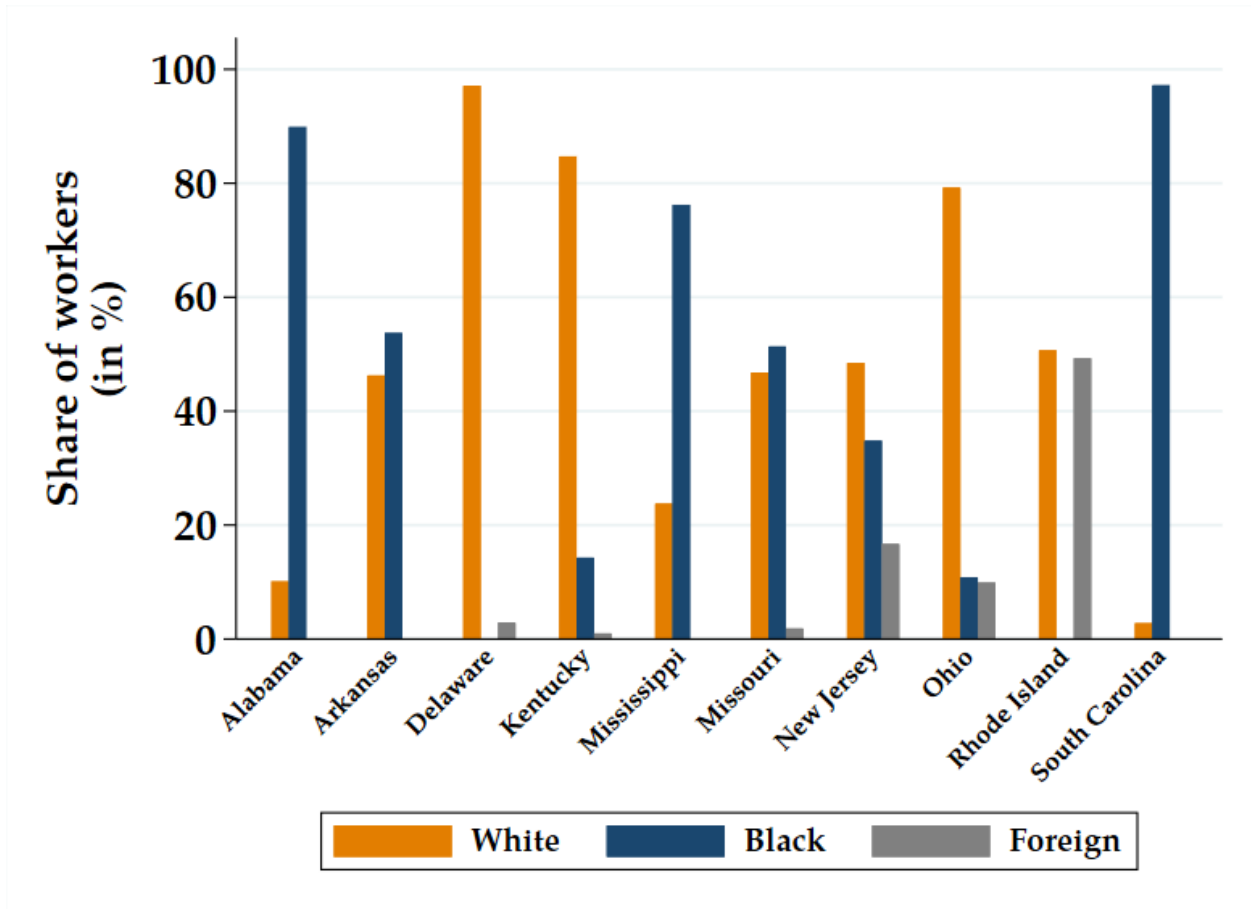
(a) Wage levels (median) in commerce



(b) Wage levels (median) in laundries

Source: Authors' database, based on the Women's Bureau surveys.

Figure A4: Racial distribution of the Women's bureau sample for the laundries industry



Source: Authors' database, based on the Women's Bureau surveys.

Table A6: Share of Establishments with Deficiencies in State Reports, Part 1 of 2

State	Cleaning Unsatisf.	Heating Unsatisf.	Ventilation Insuff.	Natural Light Inadequate	Artificial Light Unsatisf.	No Seating	Improper Seating	Insuff. Egress
Georgia	44%	—	21%	18%	61%	9%	48%	—
Rhode Island	29%	7%	24%	23%	29%	17%	23%	—
Arkansas	22%	16%	28%	14%	22%	11%	23%	22%
Kentucky	39%	—	21%	30%	14%	7%	43%	—
South Carolina	21%	—	—	13%	53%	22%	88%	—
Alabama	—	—	—	—	—	—	—	—
Mississippi	—	20%	46%	47%	47%	35%	54%	59%
Oklahoma	—	—	—	15%	44%	24%	11%	44%
Delaware	—	11%	—	11%	19%	—	—	16%
Tennessee	21%	—	33%	46%	54%	27%	24%	24%

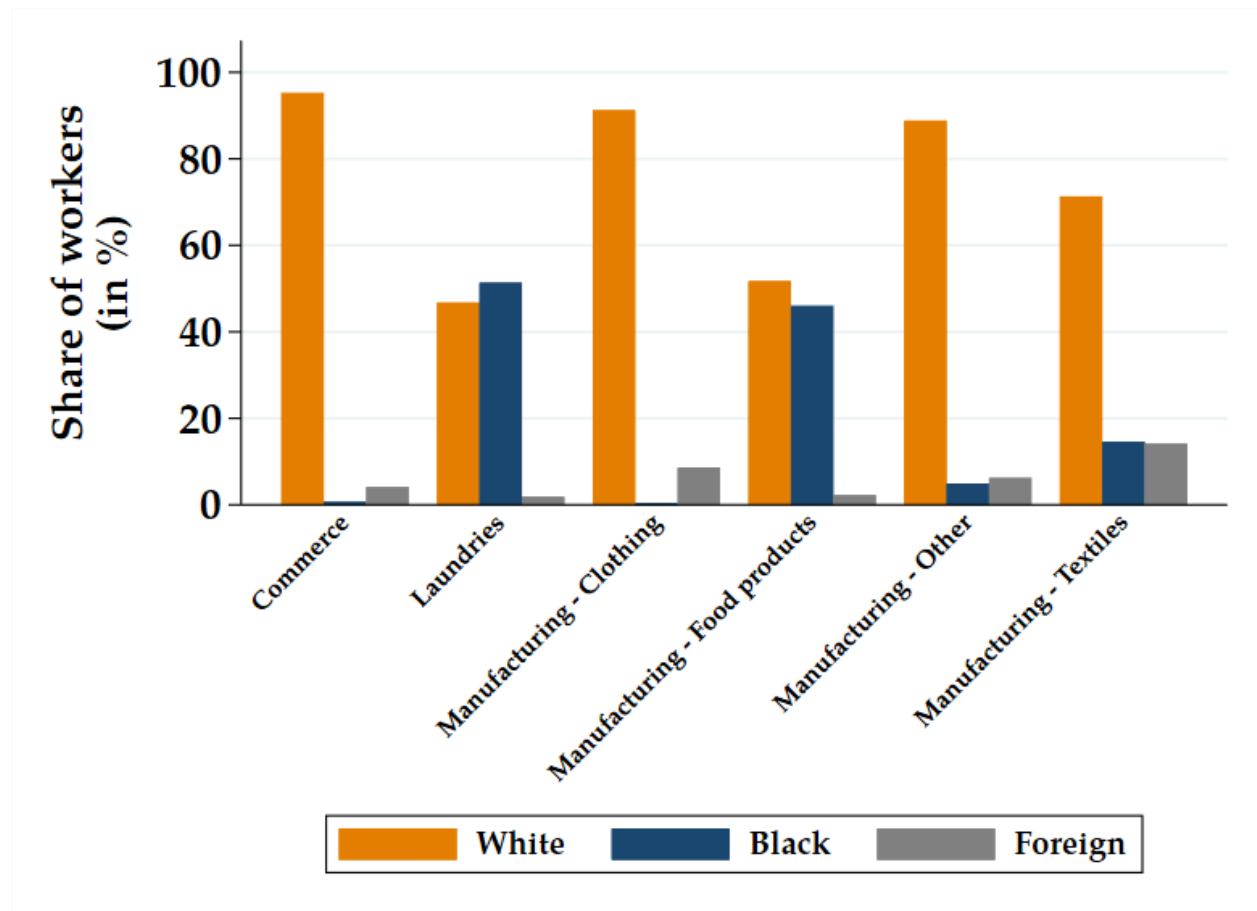
Table A7: Share of Establishments with Deficiencies in State Reports, Part 2 of 2

State	Insuff. Fire Prevention	Occ. Hazards	Occ. Strain	No washing facilities	Unsatisf. washing facilities	Insuff. Toilets	Unsatisf. Toilets	No First Aid
Georgia	—	43%	—	7%	80%	48%	—	40%
Rhode Island	30%	40%	73%	—	93%	43%	83%	16%
Arkansas	9%	27%	43%	5%	96%	67%	41%	53%
Kentucky	66%	32%	—	1%	87%	29%	88%	19%
South Carolina	64%	44%	—	7%	65%	—	88%	33%
Alabama	—	—	—	14%	88%	35%	—	36%
Mississippi	—	—	—	14%	70%	38%	—	47%
Oklahoma	—	—	—	4%	50%	40%	21%	—
Delaware	—	—	—	3%	38%	11%	8%	21%
Tennessee	—	—	—	5%	79%	—	—	26%

Notes for tables A6 and A7: The Reports for Missouri, New Jersey, and Ohio did not contain a section discussing working conditions. Empty cells are those for which the Women's Bureau did not present data.

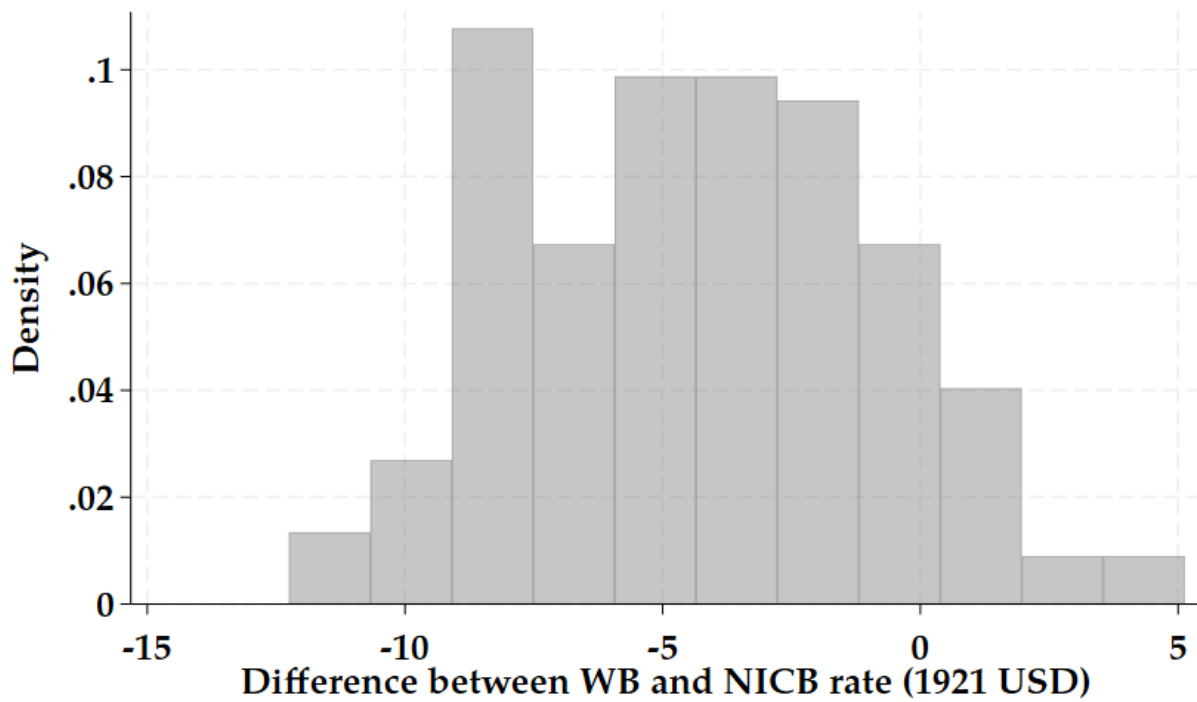
Sources for tables A6 and A7: US DOL Women's Bureau (1922a, 1922b, 1923a, 1923b, 1923c, 1924a, 1926a, 1926b, 1927b, 1927c).

Figure A5: Racial distribution of the Women's bureau sample for the state of Missouri



Source: Authors' database, based on the Women's Bureau surveys.

Figure A6: Difference between Women’s Bureau (WB) and NICB wage rates, per industry-state observation



Source: Authors’ database, based on the Women’s Bureau surveys. The NICB data is derived from [Beney \(1936, 48-51\)](#).

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is edited by

Victoria Gierok,
Nuffield College, Oxford, OX1 1NF