Female-Specific Labor Regulation and Employment: Historical Evidence from the United States*

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Abstract

By the end of the nineteenth century, labor legislation for women had become a prominent issue in the United States, with most states enacting at least one female-specific work regulation. We examine the impact of three previously unexplored legislation: seating, health and safety, and night-work regulations. Given that not all states adopted these laws, and the staggered nature of adoption, we rely on a difference-in-differences strategy design to estimate the effects on female gainful employment. Our findings indicate that laws regulating health and safety conditions and restricting women's night work increased the likelihood of female employment by about 4% to 8%, accounting for about 10% to 20% from the total increase during our period of analysis. Examining heterogeneous effects reveals that younger and married women without children witnessed the largest increase in the likelihood of employment. We also document that native, higher-class and literate women were also incentivized to join the workforce. Women's labor supply in the decades under consideration has been estimated to be quite inelastic with respect to own wage. Nevertheless, we find sizable labor force participation responses to the female-specific labor regulation we study. This indicates that the legislation must have shifted women's labor supply curves, either because it made jobs more pleasant, or because it improved perceptions about how respectable it is for a woman to work in the labor market. Both channels would reduce disutility from work, and increase labor supply at any given wage level. Our findings hold important implications for policymakers and advocates seeking to promote gender equality in the labor market.

KEYWORDS: Labor Supply, Labor Law, Gender Law, Gender Norms.

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1 Introduction

By the end of the nineteenth century, labor legislation for women had become a prominent issue in the United States, with most states enacting at least one female-specific work regulation. Notably, similar efforts were observed globally, with countries like New Zealand, Canada, Australia, and various European countries enacting comparable legislation for female workers during this period. However, the existing literature on the impacts of women-specific labor legislation models of interventions remains inconclusive.[1]

This paper revisits the debate regarding the impact of female-specific labor regulation on female employment in the United States. We explore the labor market consequences of three "protective" labor regulations that have not been previously investigated: seating laws (which insured comfort by making it mandatory to provide seating accommodations to female workers), laws regulating conditions of employment for women affecting health and safety, and laws regulating night-work for women.[2]

The impact of female-specific work regulations on female employment is theoretically ambiguous, contingent upon shifts in both the demand for and supply of women's labor. On the demand side, employers may respond to increased costs of hiring women by reducing their demand for female labor or reducing female wages. On the supply side, women may increase their labor supply if they perceive advantages in these regulations, such as reduced physical and mental costs of work and diminished stigma associated with previously "undesirable" jobs and female employment more broadly. However, if employers reduce wages, women might also decrease their labor supply, depending on the relative strengths of wage substitution and income effects. Given that the interplay of supply and demand changes yields ambiguous predictions for labor market outcomes, the true impact of these protective measures remains to be determined empirically.

We rely on the digitized United States Department of Labor Women's Bureau Bulletin number 66 (Smith (1932)) to construct a novel dataset indicating the occurrence and timing of seating, health and safety, and night-work regulations across different U.S. states, and exploit the variation in the

[1] See, for example, Winslow (1928), Baker (1969), Landes (1980), Baron (1981), Breen (1988), Goldin (1988), Harvie et al. (1993), McCammon (1996), and Marchingiglio and Poyker (2021).

[2] Initially, labor legislation targeting women was widely regarded as a protective measure without question. However, by 1920, a new perspective emerged, and these labor laws became a subject of controversy, being perceived as discriminatory on the basis of sex.

timing of enactment, which occurred gradually between 1872 and 1931.

Our analysis focuses on the time period from 1860 to 1940 to examine the impact of these regulations on female gainful employment.[3] To estimate the impact of female-specific labor regulations on female employment, we rely on a two-way fixed effects model in which we compare the likelihood of female gainful employment between states that passed one of the labor regulations targeting women and those that did not in every census decennial year.

We document a rise in female gainful employment in U.S. states that implemented health and safety and night-work regulations, by about 4% to 8%. This increase accounts to about 10% to 20% from the total increase in female gainful employment during our period of analysis. Similar results are obtained when we employ the number of years since the adoption of health and safety and night-work regulations as our treatment variable. We find limited evidence suggesting that seating regulations were associated with an increase in female employment.

For this interpretation to be causal, the parallel trends assumption must hold: in the absence of female-specific work regulations, female employment in states that implemented such laws (treated states) would have followed a similar trajectory to that in states that did not (untreated states). However, this assumption could be violated if, for example, states experiencing more progressive trends in female employment for various other reasons were also more inclined to enact such legislation.

Using raw data, we show that changes in female employment were not systematically different across different state groups prior to the policies implementation. We further explore the dynamic effects of the adoption of these female-specific labor regulations by employing an event study using two-way fixed effects and staggered difference-in-differences specifications. While coefficients on the lead terms indicate the absence of significant pre-trends in female gainful employment prior to implementing each of the female-specific labor regulations, our lag coefficients reveal a moderate increase in the decades following the enactment of health and safety and night-work regulations. Furthermore, we observe a more substantial increase in subsequent decades, primarily attributed to the reinforcement and revision of female-specific labor regulations post-passage. A primary limitation of using decadal data to identify the impact of policy changes is the difficulty in detecting short term changes occurring immediately after the legislation's passage. Thus, the leads and lags analysis should be considered as suggestive of the absence of pre-trends rather than capturing

[3] We consider the share of women aged 16 and above that report a "gainful" occupation given that measures of labor force participation are not available until 1940 (Goldin (2006)).

event-specific effects.

The implementation of female-specific labor regulations differed across industries, specifically affecting mercantile, manufacturing (both durable and non-durable), personal services, and mining sectors. We rely on the industry level variation and conduct an aggregate analysis in a triple-differences framework to further validate our assumptions and rule out influences from prior trends in female employment both at the state and industry levels. We find that the increase in the aggregate local female gainful employment mainly stems from the increase in these targeted industries, particularly manufacturing.

The combination of a large number of legislative measures during the progressive era, major underlying economic transformations, coupled with variation that is at the state level only and data at decadal frequency all raise first order challenges. We perform multiple analyses to address the potential endogeneity in the treatment. First, we account for pre-passage state-level observable characteristics that may have affected the passage of female-specific labor regulation (e.g., industrialization and economic development levels, political movements, and labor union assemblies and actions). Second, we account for time-varying factors, such as equal pay laws, maximum hours regulations, and suffrage laws, which reflect progressive views and might be correlated with the enactment of these regulations and influencing female labor supply. We also limit the analysis to "early adopters" who implemented these regulations before the beginning of the progressive reform era and the major economic transformations (i.e., before 1900). Lastly, to address the overlap in law implementation that might violate our parallel trends assumption, we account for potential complementarity in the effects of seating, health and safety, and night-work regulations by simultaneously examining their impact on female employment.

To further validate our main findings, we implement an instrumental variable strategy that leverages regional waves in the passage of female-specific labor regulations. While this methodology has been applied in the context of cross-country democratization (Acemoglu et al. (2019)), relying on it to predict the adoption of state-level labor regulations represents a novel contribution to the state-policy literature. Specifically, we rely on the first year of passage within a region as an instrument to predict the passage of labor regulations in all states within the same region. Findings from this methodology align with our primary conclusions, illustrating a rise in female employment

as a consequence of the introduction of female-specific labor regulations.[4]

We conduct an empirical analysis to gain insights on the mechanisms through which female-specific labor regulations increased female gainful employment. Firstly, we document that there is no impact on male employment, indicating two key points: that employers did not substitute female labor with male labor, suggesting the absence of a leftward shift in the female labor demand curve; and secondly, that the primary results we observe cannot be attributed to a general increase in labor demand in states that enacted female-specific labor regulations due to industrialization or economic expansion.

The initial increase in female labor supply is thus potentially driven by women attributing significant value to these policies that improve their working conditions, thus positively influencing their employment decisions.[5] In other words, changes in non-wage amenities potentially resulted in a rightward shift of the female labor supply curve by making employment more attractive to women and potentially encouraging more women to supply labor at every wage level. However, given the inelasticity of the female labor supply function during this period, improvements in working conditions must have primarily contributed to shifts in the slope of the supply function, increasing the elasticity of substitution, motivating women to enter the labor force for a given wage level (Clemens (2021)).

An additional plausible explanation for the increase in female labor supply is that these policies effectively reduced the social stigma surrounding women's employment. During the late nineteenth century, the cost of women employment was high and their jobs were perceived as "dirty, dangerous, repetitive, with night-shifts and long hours of work" (Goldin, 2006, p. 4). The considerable societal bias against women working, particularly for married women, combined with the nature of jobs, resulted in a large negative income effect and an inelastic female labor supply function (Goldin (2006)) at the beginning of our analysis period.

The implementation of female-specific labor regulations can potentially lead to a greater societal acceptance of women's employment, both within society and among husbands. By reducing the societal stigma surrounding women's work and decreasing the magnitude of income effects, female-specific labor regulations could further increase the elasticity of women's labor supply function,

[4]Of note, our difference-in-differences results are robust to the inclusion of regional fixed effects.

[5]Changes in policies and environments can alter incentives and attitudes over time, as documented in studies on social policy regulations (Wheaton (2022)), earned income tax credits (Bastian (2020)), pensions (Bau (2021)), political quotas (Beaman et al. (2009)) and paternity leave reforms (Fontenay and González (2024)).

leading to higher female labor force participation.[6]

We provide empirical evidence in support of the aforementioned channels by examining the heterogeneous effects by women's socio-demographic and economic characteristics. While the positive effect on single women highlight mostly changes in the own-wage substitution effect, the impact of female-specific labor regulations is particularly large and significant for married women without children, suggesting that the increase in labor supply did not solely stem from changes in the substitution effect parameter.

Since stigma against women's employment tended to exacerbate the income effect, higher incomes were more likely to trigger significant stigma. We thus conduct a heterogeneity analysis by social status and find that the introduction of regulations on health and safety and night-work regulations increased employment for higher-class and literate women. This outcome is likely attributed to a reduction in the magnitude of the income effect.

Finally, social stigma against women's employment tends to be more prevalent in male-intensive industries, whereas it may be less pronounced in female-dominated or mixed industries. Our empirical evidence suggests that protective regulations led to an increase in female gainful employment even within male-dominated industries, confirming that female-specific labor regulations were successful in enhancing social acceptance of women's employment during our analysis period.

The findings provide empirical evidence supporting the idea that increases in female labor supply stemmed from shifts in both own-substitution and income effects. While changes in women's willingness to work due to the benefits associated with these regulations explain part of the increase, positive shifts in female labor supply cannot be solely attributed to changes in the substitution effect. Through improving and regulating working conditions, female-specific labor regulations have potentially reduced the income effect by fostering greater societal acceptance of women's employment.

This paper contributes to several strands of the literature. First, we contribute to the debate on the effect of labor legislation for women on employment (Amin and Islam (2015), Baron (1981), Bailey et al. (2023), Breen (1988), Baker (1969), Goldin (1988), Harvie et al. (1993), Hyland et al.

[6]In the long run, diminishing social stigma around women's employment can lead to a rightward shift in female labor demand across sectors. While demand factors may play a role over time, we argue that the initial impact arises from supply-side adjustments.

(2020), Landes (1980), Marchingiglio and Poyker (2021), McCammon (1996), Winslow (1928), Zveglich and Rodgers (2003), Zabalza and Tzannatos (1985)) and to the broader literature on the impact of protective legislation including child labor, equal pay, maternity leave, minimum-wage and maximum-hours, on employment decisions (Bailey et al. (2023), Bailey et al. (2024), Brenøe et al. (2023), Berger and Waldfogel (2004), Feigenbaum and Russo (2020), González and Zoabi (2021), Gruber (1994), Hallward-Driemeier and Gajigo (2015), Hunt (1999), Olivetti and Petrongolo (2017), Petchesky (1979), Zabalza and Tzannatos (1985), Zveglich and Rodgers (2003)). Furthermore, prior and emerging research indicates that women- and family-friendly occupations, providing flexibility and part-time options, as well as enhanced general working conditions, can improve women's employment (Goldin and Katz (2016), Li (2023), Mas and Pallais (2017), Maestas et al. (2023), Wiswall and Zafar (2018), Price and Wasserman (2023)).

To the best of our knowledge, we are the first to construct a novel database on seating, health and safety, and night-work regulations targeting women in the United States. We have also formally investigated how the a priori ambiguous effects of "protective" regulations impact the employment of those regulated. Regulating work conditions can protect the workers subject to regulation and change norms to improve their social status, but it may also lead to their replacement. Our findings support the former effects by documenting an increase in female gainful employment in U.S. states that implemented health and safety and night-work regulations. We provide empirical evidence that supports our primary channels: female-specific labor regulations have increased female gainful employment by incentivizing women to enter the workforce and influencing societal acceptance and perceptions about women's employment.

Second, this paper contributes to the literature on the development of American labor institutions in the early 20th century by offering causal estimates of the effects of controversial and contentious female-specific labor regulations. While previous studies have primarily examined female-specific maximum-hours and minimum-wage regulation (Landes (1980), Goldin (1988), Marchingiglio and Poyker (2021)), our research fills a gap by analyzing the impacts of seating, health and safety, and night-work regulations that have been overlooked in prior research.

Third, our study adds to the existing literature on the factors influencing women's labor outcomes in the United States by providing evidence that female-specific policies have the potential to

alter women's employment decisions.[7] Specifically, policies targeting the nature of women's employment may potentially serve as incentives for them to join the workforce while simultaneously reducing the stigma associated with their employment. This aligns with several other papers that demonstrate how policies can influence culture and/or attitudes (Bau (2021), Bastian (2020), Beaman et al. (2009), Dhar et al. (2022), Fontenay and González (2024), Gruber and Hungerman (2007), Wheaton (2022)). Our paper thus makes a novel contribution to this literature, by focusing on the interaction between social norms around women's labor supply and structural changes that raised the value of women's work.

Finally, our findings contribute to the literature on affirmative action and its impact on marginalized groups (Bagues and Esteve-Volart (2010), Bursztyn et al. (2023), Dhaliwal et al. (2013), Beaman et al. (2009), Holzer and Neumark (2000), Leonard (1989), Leonard (1990), and Smith and Welch (1984)). Specifically, we provide empirical evidence that relates to the discussions and policies in developing countries aimed at improving the working conditions for female workers and advancing women's rights in the labor force.[8]

The paper is structured as follows: Section 2 provides a historical background on labor legislation related to women in the United States and summarizes the conflicting findings on the effects of female-specific labor regulations. Section 3 discusses the mechanisms through which these regulations impact female employment. In Section 4, we describe our data sources. Section 5 presents our empirical strategies, main findings, robustness analysis, explores dynamic effects, and runs an industry-specific analysis. Section 6 examines the channels through which the regulations operate. Finally, we briefly conclude in Section 7.

[7] Numerous studies, including those by Bazzi et al. (2023), Brodeur and Kattan (2022), Cortés et al. (2022), Goldin (1988), Goldin (1991), Goldin (1994a), Goldin and Katz (2002), Goldin (2006), Goldin and Olivetti (2013), Gruber (1994), Haddad (2021), Landes (1980), Fernández et al. (2004), Fernández (2007), Fernández and Fogli (2009), Fernández (2013), have explored the factors influencing women's employment in the United States.

[8] In Bangladesh, there have been discussions regarding the urgent need to enhance occupational safety measures for female workers, particularly in industries such as garments and textiles (ILO (2016)). These discussions aim to address safety hazards, promote appropriate working conditions, and ensure the well-being of female employees. Similarly, countries like India, Indonesia, and Cambodia (https://www.globalpeoplestrategist.com/labor-laws-in-cambodia/) are actively engaged in efforts to implement occupational safety regulations tailored to the specific requirements of female workers. For example, India recently introduced a seating law in 2018 (Maharashtra Act No. LXI of 2017 (https://lj.maharashtra.gov.in/Site/Upload/Acts/H%20693.pdf).

2 Historical Background

In this section, we provide a comprehensive account of the historical development of labor regulation pertaining to women in the United States. This involves examining its origins, discussing the contrasting perspectives of those who support and oppose protective regulations for women, and analyzing the legal rationale behind such protective measures.

2.1 The Origins and Controversies of Female-Specific Labor Regulation

The history of female-specific labor regulation in the United States is a history of constitutional dispute regarding the power of the state to interfere with individuals' freedom of contract (Basch (1986), Lehrer (1987), Baer (1978)). Women-only labor regulations which were initially thought of as another aspect of the Progressive reform era in the United States, with regulations to protect women and children surging at the top of reformers' agendas (Baer (1978), Baron (1981), Woloch (2017)), were then later challenged due to their potential discriminatory effects (Lehrer (1987), Woloch (2017)).[9]

The origins and influences of labor regulation for women encompassed a large range of factors. These included organized labor, state labor officials responsible for enforcing labor regulations such as factory inspectors, labor statistics bureaus, special legislative committees or commissions, governors, progressive employers, social, civic, philanthropic, and church groups. Additionally, factual studies highlighting working conditions in need of legal remedies and the prevailing beliefs of the time played a significant role in shaping this regulation (Beyer (1929)). However, the relative importance of each of these factors varied significantly across different states.[10] In Section 5, we address this by examining the data and exploring how certain variables may potentially influence the variation in the timing of enacting regulations.

Towards the end of the nineteenth century, progressive reformers aimed to address the negative impacts of industrialization. They initiated a campaign to enhance the lives of industrial workers,

[9] An era of intense social and political reform between late 1890s and late 1910s across the United States which aimed at making progress toward a better society by defeating problems caused by rapid industrialization, urbanization, immigration, and political corruption.

[10] For a more detailed examination of each of these factors, refer to the comprehensive discussion provided by Beyer (1929). See Goldin (2023) for a detailed chronology of significant milestones in the history of women's rights in the United States, as well as an exploration of how women obtained legal rights equal to men's regarding the workplace and other aspects. Tertilt et al. (2022) summarizes the political-economy mechanisms that explain a significant portion of the variation observed in women's rights across countries and over time.

specifically by limiting working hours, increasing wages, improving working conditions, and promoting occupational safety (Woloch (2017)). In the United States, labor regulation for women was also considered a vital component of the Progressive reform era. Reformers prioritized enacting regulations to safeguard women and children (Baer (1978), Baron (1981), Woloch (2017)). Supporters of these regulations argued that they would alleviate the challenges faced by female workers and serve as a starting point for more comprehensive labor standards benefiting all employees (Woloch (2017)).

By the end of the Progressive legislative era, the majority of U.S. states had enacted at least one form of protective labor regulation for women. These regulations encompassed various measures such as setting limits on working hours both on a daily and weekly basis (maximum-hours regulations). They also included regulations pertaining to factory and industrial work conditions (health and safety regulations). Additionally, there were mandates for employers to provide chairs for female workers (seating regulations), limitations on night work (night-work regulations), and the implementation of child labor regulations (Smith (1932)).[11]

Initially, the importance of protective labor regulation for women went unchallenged.[12] However, by 1920s, a shift in attitude towards such regulation emerged, leading to a significant controversy (Baron (1981), Breckinridge (1906), Lehrer (1987), Novkov (2001), Woloch (2017)).[13]

The constitutional grounds for the dispute regarding protective labor regulation for women revolved around the tension between the state's authority to intervene in the right to contract and the concept of individuals' "freedom of contract" (Basch (1986), Lehrer (1987), Baer (1978)).[14]

[11] During the late 1800s and early 1900s, New Zealand and several Canadian provinces, as well as the majority of Australian states and territories implemented regulation granting female workers the right to sit. During that same period, Austria, France, Germany, Italy, the Netherlands, Switzerland, and Spain enacted female-specific health and safety and night-work regulations.

[12] *"We have at last won a victory for our 8-hours law"* (Reformer Florence Kelly, 1893, German socialist Friedrich Engels). Florence Kelley was a chief factory inspector in Illinois and general secretary of the National Consumers' League who had drafted and promoted the 1893 Illinois law which regulated factory conditions, prohibited labor for children under fourteen, and provided an eight-hour day and forty-eight-hour week for women and teenagers in workplaces and factories. The passage of the maximum-hours law for female workers in 1893 in Illinois has laid as a cutting edge, marking the start of the Progressive era campaign for protective labor regulations (Woloch (2017)).

[13] Lehrer (1987) summarizes the debate surrounding the value of labor regulation for women between those who criticize the regulation based on gender, arguing that it hinders women's potential opportunities in life and those who defend such regulation, asserting that it was necessary considering the specific circumstances and realities of women's lives. According to Woloch (2017), the outcome of the Progressive legislative era was the establishment of several state protective regulations that treated women as a distinct category, thereby reinforcing and perpetuating a female-specific division of labor.

[14] See Woloch (2017) for a comprehensive examination of the debate between "freedom of contract" and state authority, as well as an overview of legal cases in state courts concerning protective labor regulations.

2.2 An Overview of Female-Specific Labor Regulations' Ambiguous Effects

Apart from the constitutional disputes and the divergent perspectives on labor regulation for women among activists, organizations, and reformers, there were debates surrounding the ambiguous effects of protective labor regulation. One of the key criticisms to the sex-specific labor regulation is its potential discriminatory impacts with plausible adverse effects on female employment (Baer (1978), Landes (1980), Lehrer (1987)).

In the 1920s, due to the intense disagreement between proponents and opponents of labor regulation for women, there was a pressing need for an investigation to be conducted by the Women's Bureau, a department of Labor.[15] The purpose of this investigation was to gather factual information regarding the impact of labor regulation for women on employment opportunities (Beyer (1929), Winslow (1928)).

Women's bureau published a bulletin on the effects of female-specific labor regulation on women employment determining that, overall, the regulation had a minimal negative impact on the employment opportunities for women in the industries under examination (Harvie et al. (1993)).[16] The report indicates that women's employment was hindered in some occupations as a result of night-work regulations (Baron (1981)). The department of Labor, Women's bureau report however concluded that "*protective labor regulations for women in manufacturing did not handicap their employment opportunities, but rather served to regulate employment and to establish the accepted standards of modem efficient industrial management*" (Winslow (1928)). The report also revealed that the legal restrictions on women's working hours have not resulted in any significant replacement of women by men (Winslow (1928)). Women's bureau report relied on interviews supplemented by descriptive statistics on female employment to investigate the effects of labor regulation on the employment opportunities for women (Harvie et al. (1993)).[17]

[15] In 1920, an act to establish a women bureau in the Department of Labor was enacted during a congress assembly of the Senate and House of Representatives of the United States. The role of the Women's Bureau as dictated in Smith (1932) was to *"formulate standards and policies which shall promote the welfare of the wage-earning women, improve their working conditions, increase their efficiency, and advance their opportunities for profitable employment"* (Public Law 66-259, 66th Congress, H.R. 13229). Moreover, this bureau had investigative authority over any issue concerning women's welfare. The bureau subsequently sent its reports to the Department of Labor, which had the authority to make the results of investigations available to the public.

[16] For more details, see the United States Department of Labor, Bulletin of the Women's Bureau, No. 68, which provides a summary of the effects of labor regulation on the employment opportunities of women, available via (https://fraser.stlouisfed.org/files/docs/publications/women/b0068_dolwb_1928.pdf?utm_source=direct_download).

[17] With respect to the maximum-hours regulations, the report concluded that these had overall little adverse effect on employment opportunities for female workers in the industries studied. Findings from this report were criticized

Empirical studies that explored the effects of female-specific labor regulation on women in the United States were constrained and primarily centered on maximum-hours and minimum-wage regulation, going beyond mere case-study approaches. The reason for this is the extensive scope of these female-specific labor regulations and the scarcity of relevant data required to conduct a comprehensive empirical analysis (Harvie et al. (1993)).

Several studies have examined the impact of maximum-hours regulation on female employment. While Goldin (1988) found no evidence of reduced employment opportunities for women in manufacturing due to maximum-hours regulations, Landes (1980) argued that such regulations contributed to a decline in female employment in manufacturing in 1920. Breen (1988) focused on the specific case of the 1911 California maximum-hours law and concluded that women targeted by the law did not experience a loss in employment share to men.[18]

The literature on female-specific minimum-wage regulations has also yielded mixed findings. While Lester (1940) found no evidence of a decrease in women's employment relative to men due to such regulations, Peterson (1959) challenged this view and argued that minimum wages for women led to a decline in female employment. In a more recent study, Marchingiglio and Poyker (2021) conducted an empirical analysis on minimum-wage regulations for women in the United States. Their findings indicate a decrease in female employment at the county-industry level, accompanied by a positive effect on net earnings regardless of employment status.[19]

An examination of the existing literature on the consequences of female-specific labor regulation in the United States reveals the presence of ambiguity in its effects. Additionally, it is evident that certain protective labor regulations have been largely overlooked in the existing body of literature.

3 Conceptual Framework

The impact on female gainful employment could stem from changes in either the demand for or the supply of women's labor. Implementing regulations that ensure safer, cleaner, and more organized

(Breen (1988), Kessler-Harris (1982), Harvie et al. (1993)).

[18] Additionally, Breen (1988) explored female-specific occupational segregation and found a significant reduction in sex segregation among unorganized workers. Similarly, Baker (1969) finds that the impact of maximum-hours regulations differed based on the gender composition of occupations, with female employment remaining unaffected in female-dominated mercantile establishments but facing discrimination in male-dominated occupations.

[19] Marchingiglio and Poyker (2021) also finds an increase in male labor demand, suggesting a substitution effect where women in lower-ranking occupations are being replaced by men in middle- or high-ranking positions.

workplaces for women workers can boost the labor supply, particularly in markets with high levels of social stigma. In fact, both enhanced non-wage amenities and reduced stigma may lead to a parallel shift and a change in the slope of the female labor supply function. The impact on labor demand, however, is more complex. While compliance with protections for female workers may raise hiring costs and reduce demand, firms might also increase demand for women to align with growing societal acceptance. We discuss these plausible mechanisms in more detail below.

3.1 Female Labor Supply Function

In the supply model, improved working conditions make employment more attractive to women, potentially encouraging more women to supply labor at every wage level. This would result in a rightward shift of the female labor supply curve. However, given how inelastic the female labor supply function was during this period, any increase in female gainful employment must have also resulted from shifts in the slope of labor supply function, making it more elastic (Goldin (2006)).

To better understand the characteristics of the labor supply curve at the time these laws were implemented, we follow Goldin (2006) and rely on the two key parameters of the Slutsky equation underlying the wage elasticity of employment: the own-substitution elasticity and the income elasticity.[20] An important aspect of the policies in question is that they were implemented when the locus of production was shifted from the family farm and business to the factory and firms; a period marked by the lowest level of female labor force participation.[21] During our analysis period, low relative wages for women, often due to lower skills and education levels, alongside high opportunity costs driven by traditional gender roles, lead to diminished utility from employment and a weak substitution effect. Conversely, with shifts in production dynamics, higher incomes for husbands or other family members would trigger a significant income effect. The substantial magnitude of this effect arises from the existence of social norms or stigma against women working in manual labor and firms (Goldin (1994b)). This stigma primarily stemmed from the nature of the work itself during that period, as many jobs were characterized by dirt, danger, repetitiveness, and

[20] The income effect reflects changes in individual work hours due to family income shifts, while the own-substitution effect captures changes in work hours relative to wage changes, holding income constant. By own-substitution effect, we mean the compensated wage effect.

[21] Goldin (1994b) argues that the transition period from home production to industrial production is indeed associated with the lowest level of female employment (i.e., the bottom of the U-shape function). For a detailed discussion on the U-shape function of female labor force participation in the United States, see Goldin (1994b) and Olivetti (2014a).

long working hours and days as well as the prevailing gender roles, which often limit women to domestic duties.[22] These dynamics suggests an initially strong negative income effect combined with a small substitution effect (i.e., highly inelastic female labor supply function).

Female-specific labor regulations can effectively increase female gainful employment by altering these two parameters and leading to an increase in the elasticity of the supply function (i.e., flatter supply curve), making women more responsive to labor demand.

First, in response to female-specific labor regulation, women may have made adjustments to their labor supply based on the extent to which they value the associated benefits (Zveglich and Rodgers (2003)). Regulations that improved working conditions, such as those concerning health-related factors or the provision of seats for female workers, as well as those governing women's work during and after childbirth, could be seen as a positive shock that enhances women's incentive to participate in employment. Furthermore, while night-work regulations, for example, can have an exclusionary impact, they may hold particular value for married women or women with children.[23] In addition to the potential parallel shift if the labor supply function, these changes in non-wage amenities can mainly enhance the elasticity of own-substitution, motivating women to enter the labor force.[24] This is relevant considering the various margins beyond just wages (Clemens (2021)) and the consensus that workers value non-pecuniary aspects of employment (Akerlof et al. (1988), Mas and Pallais (2017), Maestas et al. (2023)).

Second, given the substantial negative income effect, it can be inferred that the positive shifts in labor supply were not solely attributed to changes in the substitution effect parameter as a significant shift would be required to outweigh the utility loss from stigma. By improving and regulating working conditions, the implementation of female-specific labor regulations could potentially reduce the income effect by increasing societal acceptance regarding women's work, which would

[22] In fact, the traditional narratives surrounding family and prevailing social norms forged distinct gender roles, marked by the stark notion of "separate spheres" for men and women, as illustrated in historical records of gender roles in the United States (Akerlof and Kranton (2000), de Tocqueville (1835), Welter (1966)). As a consequence, women, especially married ones, were confined to domestic duties and kept secluded from public life.

[23] Goldin (1988) argues that women may actually value shorter work days, given traditional gender differences in household responsibilities.

[24] Changes in the environment, such as policies implementation, have the potential to alter incentives and, consequently, influence attitudes over time. For instance, Bastian (2020) shows that earned income tax credits altered attitudes towards women's work in the U.S. Similarly, Bau (2021) examines how the implementation of pensions affected the prevalence of matrilocality and patrilocality in Ghana and Indonesia. Additionally, Beaman et al. (2009) investigated the effects of political quotas in West Bengal, observing changes in women's willingness to run for political offices and the electorate's voting behavior after the removal of quotas. See Fernández et al. (2021) for an overview on how shocks in technology, institutions, policies, or the acquisition of new information can affect beliefs and/or change incentive.

further enhance the elasticity of women's labor supply.[25] We provide empirical evidence to support these claims in Section 6.

3.2 Demand for Female Labor

On the demand side, in response to the mandate of seating provisions to female workers, restrictions on women's night-work, and health and safety related policies, employers may opt to substitute female labor or adjust female workers' wages downward (Zveglich and Rodgers (2003)).[26] The additional costs might shift the labor demand curve leftward, as the added expenses decrease the marginal benefit of hiring additional female workers at any given wage level. However, due to the weak power of organization among female workers, and the lack of effective standards of work, it might have still been advantageous for employers to rely on female labor than to employ men (Breckinridge (1906)). This could be the case despite the requirements for more favorable conditions of work, especially that these regulations did not impose onerous regulations to comply with, which could further make the decrease in demand for female labor less likely. A decrease in the demand for female labor, if any, would make our estimates of increases in female employment a lower bound for the increase in female labor supply.[27] However, the lack of observed effects of these laws on male workers, even in female-dominated industries, suggests that firms did not substitute women with men in response to these policies.

In the long run, shifting societal norms can have significant spillover effects on employers. As social stigma around women's employment gradually diminishes, especially within families, it becomes more widely accepted for women to work. This shift in perception can effectively increase demand for female labor across various sectors and skill levels, resulting in a rightward shift in the female labor demand function. However, as Goldin (2006) suggests, while both demand and supply effects work together to expand female participation in the workforce, demand-side changes during this period may require time to take effect.

[25] While the decrease in magnitude of the income effect during this period was documented by Schoenberg and Douglas (1937), we argue that this decrease can potentially be accelerated in states where female-specific labor regulations were implemented.

[26] Other factors may however hinder employers' decisions to move away from female labor such as, the fact that female workers were paid less than their male counterparts during that period (Breckinridge (1906)).

[27] In fact, during our period of analysis, the United States was experiencing rapid economic expansion which boosted the demand for labor, including that of women (Goldin (2006), Olivetti (2014b)). This potential increase in demand is considered as a confounding factor only if it was higher in states that implemented female-specific labor regulations. We provide empirical evidence that this is not the case.

Although it is challenging to fully distinguish whether the overall effect stems from supply- or demand-side factors, our conceptual framework suggests that the initial rise in female labor force participation is primarily driven by shifts in the labor supply function, as more women become willing to work. While demand factors may play a role over time, the initial impact arises from supply-side adjustments.

4 Data

In this section, we describe our data sources for state-level labor regulation for women, employment, and other variables of interest. We also provide some detailed descriptive statistics.

4.1 Data on State Level Labor Regulation for Women

Data regarding labor regulation for women at the state level in the United States is acquired from a digitized archived bulletin issued by the Women's Bureau of the United States Department of Labor.[28] The bulletin provides information on maximum-hours regulations, seating requirements, laws regulating certain types of employment, and regulations limiting night-work for female workers. For this analysis, we focus on seating, health and safety, and night-work regulations passed between 1860 and 1940 in the U.S. states and the District of Columbia.[29]

Seating regulations are legislative acts passed by state legislatures that mandate the provision of suitable seats for female workers. An example is the 1919 act passed by Kansas specifically for manufacturing plants.[30] Almost all states and the District of Columbia, except Florida and Missis-

[28] The United States Department of Labor Women's Bureau, in their publication Bulletin number 66 part II from 1932 (Smith (1932)), presents a comprehensive overview of the progressive evolution of labor regulation for women in the United States. This bulletin categorizes the labor regulations by state, providing details on their establishment and the specific nature of each law. Moreover, a previous edition of the bulletin, Bulletin number 66 part I, issued in 1929 by the Department of Labor Women's Bureau, delivers a detailed analysis of labor regulation for women in three specific states: California, Massachusetts, and New York.

[29] Maximum-hours regulations were also enacted during our period of analysis. It dictated how different U.S. states regulated hours worked for female workers, such as restricting them to eight or 8.5 hours per day, as well as weekly hour restrictions in certain U.S. states. We do not include these regulations in our main analysis given that previous studies have already examined the impact of regulating the length of the working day or week for female workers in the United States (Goldin (1988), Landes (1980)). Instead, we focus on night-work regulations, which pertain to the prohibition of women from working night shifts. Furthermore, we do not examine the equal-pay regulations, which prohibit female-specific wage discrimination (Megdal and Ransom (1985)). The reason for excluding this law from our main analysis is that during our study period (1860–1940), only two states, Michigan and Montana, passed the equal-pay regulations in 1919. We provide additional evidence in Table 3, demonstrating that our main findings remain robust after controlling for these regulations.

[30] Seating regulations required that each woman employed be provided with a suitable seat and encouraged its use to ensure convenience, comfort, and efficiency in performing labor. All seats were required to have backs and footrests

sippi, had regulations that require some form of seating accommodations for female workers. The application of seating regulations varied across states and industries. For example, in Alabama, Maryland, North Dakota, and South Carolina, seating regulations applied exclusively to occupations in the mercantile industry. Additionally, the number of seats required varied across states and occupations. In this study, we focus solely on whether a U.S. state passed any type of seating regulations for female workers. Panel A of Figure 1 and Appendix Tables A1 and A2 provide further details about the year in which each U.S. state enacted seating regulations.[31]

Health and safety regulations include legislative acts that regulate employment conditions for women, including aspects related to health and safety. For example, in 1916, California passed a legislated act that regulated working conditions in the fruit and vegetable canning industry. It stipulated that no woman should be required or permitted to carry heavy burdens such as boxes of fruit, vegetables, trays of cans, to or from her workplace in the establishment (Smith (1932)). Other regulations pertain to the employment of women before and after childbirth. In 1913, Connecticut enacted a law that made it unlawful for the owner or person in authority in certain establishments to knowingly employ or permit a woman to work within four weeks before or after childbirth (Smith (1932)). In West Virginia, an act passed in 1901 prohibited women from cleaning mill gearing or machinery in manufacturing, mechanical, or other establishments while such machinery was in motion. Violation of this provision was considered a misdemeanor punishable by a fine of USD 20 to USD 100, or imprisonment in case of default in payment (Smith (1932)).

In addition to laws that regulated women's health and safety, there were also exclusionary regulations that prohibited women from working in occupations deemed dangerous. Specifically, women were excluded from mining related occupations (Smith (1932)).[32] Given that the regulations that prohibited the employment of women were primarily targeted at the mining industry, which had an insignificant presence of working women in our sample, we have chosen not to analyze it as a distinct category of regulations. Instead, we incorporate it into the broader classification of health

that were broad and firm enough for convenient working (Smith (1932)).

[31] The majority of states later revised their seating regulations to encompass all workers, irrespective of their sex. However, certain states such as New Mexico, New York, Pennsylvania, and West Virginia continue to utilize gender-specific language specifically targeting female workers. Meanwhile, seating regulations were abolished in various states from 1972 to 2015.

[32] For example, In Virginia, an act passed in 1912 prohibited the employment of women in coal mines. Any operator, agent, or mine foreman found knowingly violating this provision could face a fine of USD 10 to USD 500 or imprisonment for 10 to 90 days (Smith (1932)). Similarly, in Wyoming, a 1890 act prohibited the employment of women in or around any coal, iron, or other dangerous mine or underground works, except in an office or for clerical work (Smith (1932)).

and safety regulations.[33]

As of 1919, health and safety regulations explicitly aimed at female workers had been implemented in a total of 28 states in the United States. Panel B of Figure 1 and Appendix Tables A1 and A2 provide specific details about the year in which each U.S. state passed any type of health and safety regulations for female workers.

Night-work laws were implemented to prohibit women from working during night-time hours. These regulations either banned night-work for women in specific industries or occupations or imposed limitations on the number of hours they could work at night. The prohibition of night-work for women in manufacturing establishments was first introduced in New York in 1889. As part of the act that specified maximum working hours, this provision applied to women under the age of 21 and prohibited their employment between 9 p.m. and 6 a.m. Violating this law was considered a misdemeanor and carried penalties such as a fine ranging from USD 20 to USD 100, imprisonment for 30 to 90 days, or both (Smith (1932)).

Between 1889 and 1921, a total of 20 states in the United States enacted night-work regulations that specifically governed the employment of women. Bans on female night-work were implemented in a specific industry or occupation in a total of 16 states. Among these states, three prohibited night-shift work for women in manufacturing industries, one in the mercantile industry, and two banned night-work in a single occupation each. The remaining ten states specified multiple industries or occupations where night-work for women was prohibited. In some states, women were allowed to work at night but with restrictions on the duration of their shifts, typically limited to eight or ten hours. Certain states combined these two types of regulations by imposing restrictions on the number of hours for female night-work in certain occupations while prohibiting work at night for women in other occupations. The majority of states designated the period from 10 p.m. to 6 a.m. as the time-frame during which night-work for women was banned (Smith (1932)). For specific details regarding the year of enactment of night-work regulations in each U.S. state, refer to Panel C of Figure 1 and Appendix Tables A1 and A2.[34]

In Appendix Tables A1 and A2, we also present a comprehensive overview of the subsequent revisions or reinforcements to these regulations. Revisions and reinforcements to female-specific

[33] In Section 5.3, we show that these prohibitory regulations had no effect on women's employment in the mining industry.

[34] Over time, the majority, if not all, of protective regulations were either amended, repealed, deemed unconstitutional, or simply no longer enforced due to their discriminatory treatment of women. Some of the protective regulations have been substituted with gender-inclusive regulation, such as the Occupational Safety and Health Act.

labor regulation encompassed several aspects, including: 1) the escalation of fines or penalties for violations, such as changes in fines or the possibility of imprisonment depending on the severity of the offense; 2) the expansion of regulations to encompass additional industries and occupations, thereby making them more inclusive; and 3) modifications to the requirements of existing regulations (for instance, the 1903 revision of California's seating regulations, which stipulated that a minimum of one seat should be provided for every three women employed in manufacturing, mechanical, and mercantile occupations) (Smith (1932)).

4.2 Employment Data

We rely on complete-count United States Population Censuses from 1860 to 1940, compiled by the Integrated Public Use Microdata Series (Ruggles et al. (2024)).[35] The IPUMS dataset provides access to microdata from the U.S. Census, encompassing a wide range of variables related to literacy, education, employment, fertility, income, and other relevant demographic characteristics.[36] Our analysis is conducted at the individual level, where we collect information on age, race, and ethnicity. Additionally, we gather data on gainful employment using a binary variable that indicates whether an individual reports being gainfully employed.[37] Furthermore, we utilize the occupational income score from IPUMS, which is a constructed numeric variable consisting of two digits. This variable assigns a value representing the median total income (in hundreds of 1950 dollars) to occupations across all years.

For our analysis, we focus on women aged 16 to 65 years old. Table 1 presents summary statistics by decennial year for our sample of women. The table displays statistics for the following decennial years: 1860, 1880, 1900, 1920, and 1940, which correspond to columns (1) to (5), respectively.[38] The

[35] The data can be accessed using the following URL: https://usa.ipums.org/usa/. It is important to note that Census data for 1890 is unavailable from all sources; therefore, we have excluded it from our analysis.

[36] Information on individuals' educational attainment, as measured by the highest year of school or degree completed, is not available in the U.S. Census prior to 1940.

[37] As mentioned earlier, we refrain from using the term "labor force participation" because it was only introduced starting from the 1940 U.S. Census. Prior to that, the census asked about the occupation in which individuals were "gainfully employed" (Goldin (2006)). One caveat is that data on gainful employment may underestimate actual labor force participation, particularly for women, due to factors such as unpaid family labor and social stigma (Burnette (2021), Chiswick and Robinson (2021), Goldin (2006)). A specific concern arises regarding potential differential under-reporting of female employment between states subject to the treated regulations and control states. We would be concerned if, for each census year, women were more likely to under-report gainful employment in control states compared to those treated under the three regulations examined. However, such a scenario is unlikely to occur. Additionally, in Section 5, we demonstrate that the introduction of female-specific labor regulations is independent of female employment outcomes and the overall legal/social environment for women.

[38] We adhere to the U.S. Census IPUMS classification, using state FIPS codes to determine the number of states included

share of women who are employed increased from about 14% in 1860 to almost 29% in 1940. The average age of females in our sample rises from 33 to 37 between 1860 and 1940. The majority of women in our sample are married, and the average number of their own children decreased from approximately two to one child over the period from 1860 to 1940.[39] In column (6), we compute the average statistics, averaging across the years 1860 to 1940. On average, around 24% of women in our sample are employed.

In Figure 2, graph (a) we analyze decade census data to visualize the changing proportions of gainful employment among women and men over time. Specifically, we examine the shares of employed females and males aged 16 to 65 for every census year from 1860 to 1940, excluding 1890. Throughout this period, men consistently displayed a significantly higher likelihood of being employed in gainful occupations compared to women.[40] In graphs (b), (c), and (d), we focus specifically on female gainful employment, plotting proportions over time while averaging across U.S. states categorized by their early, middle, or late adoption of seating, health and safety, and night-work regulations, respectively. The insights derived from these graphs are twofold. Firstly, we confirm that changes in female gainful employment over time are not systematically different in the pre-implementation period (i.e., before 1880) across groups. Secondly, we observe that early adopters are not necessarily the states that initially had higher levels of gainful employment specifically for the health and safety regulations.

in our dataset. For instance, in the year 1860, data is accessible for all households and group quarters enumerated in 45 U.S. states, along with the District of Columbia. The states of Alaska, Hawaii, Idaho, Montana, and Wyoming are not featured in the 1860 U.S. Census IPUMS data and, therefore, are not part of our dataset for that specific year. As an illustration, consider Arizona, which was previously a part of the Territory of New Mexico. It was established as a U.S. territory in 1863, eventually achieving statehood as the forty-eighth state in the Union in 1912. The inclusion of Arizona's state FIP code in the 1860 U.S. Census IPUMS classification stems from the fact that the 1860 federal census covered the portion of the state known as Arizona County, which was enumerated as part of the New Mexico Territory at that time.

[39] The marital status variable is not available in the U.S. Census prior to 1880. While we acknowledge that it is still possible to infer marital status for the 1860 and 1870 Censuses using two variables from the U.S. Census IPUMS data, namely "relate" and "nchild," we choose not to do so for at least two reasons: 1) The "relate" variable specifically identifies married women who respond with "spouse" when asked about their relationship to the head of the household. This categorization is irrespective of their fertility status. Consequently, this method fails to capture cases such as married daughters residing in their father's household who would respond with "child" to the "relate" question, and 2) The "nchild" variable identifies *ever-married* women with at least one child. These women could be separated, widowed, or married with their spouse absent, yet they would still have non-zero own children. Combining both variables allows us to uniquely identify spouses with children. Furthermore, considering the nature of our analysis and the specific mechanisms we are investigating, particularly the interplay between substitution and income effects, inferring marital status is not sufficient.

[40] During our period of analysis, many factors contributed to the increase in female gainful employment throughout the United States. See Goldin (2006) for a detailed discussion on the evolution of female gainful employment.

5 Female-Specific Labor Regulations and Female Gainful Employment

Our objective is to assess the causal impact of female-specific labor regulations on female gainful employment. To achieve this, we rely on the variation in state-level adoption of these regulations. We focus on two key factors: (1) not all states implemented these regulations, and (2) the regulations were implemented in a chronological order between 1872 and 1931. We employ a difference-in-differences design and compare states that passed labor regulations specifically targeting women with those that did not during each decennial year from 1860 to 1940. We examine the effects of three labor regulations: seating, health and safety, and night-work regulations. For each decade, we categorize states as either treated (those that implemented the labor law in question) or control states (those that did not implement such law).

5.1 Main Findings

5.1.1 Baseline Specification

In order to identify the causal effect of female-specific labor regulation on female gainful employment, it is necessary to address various sources of endogeneity. First, states that have implemented female-specific labor regulations may exhibit time-invariant characteristics that lead to different levels of female employment compared to those that have not. For instance, states adopting these regulations might tend to have a more favorable legal environment for women overall. Second, the trends in the adoption of female-specific labor regulations have changed over time. Therefore, we include state and decade fixed effects to account for these concerns. Given that individual-level characteristics can influence employment decisions, we conduct our analysis at the individual level, which allows us to control for exogenous characteristics of individuals.

To estimate the average treatment effects of female-specific labor regulations, we rely on the following difference-in-differences specification:

$$y_{isd} = \beta \cdot LaborLaw_{sd} + \gamma_s + \tau_d + \lambda X'_{isd} + \epsilon_{isd}, \tag{1}$$

where y_{isd} is the gainful employment status of woman i residing in state s in decennial year d. It is a binary variable that takes the value of one if woman i reports gainful employment, and zero

otherwise. The explanatory variable of interest, $LaborLaw_{sd}$, is an indicator that equals one for all states that adopted a female-specific law by the decennial year d and in the following decades. It assigns a value of zero to states that never adopted the labor law in question and to those that did so, but only for the decades preceding its passage. This binary indicator allows us to classify states into treated and control states, as well as pre- and post- treatment for treated states. We examine seating, health and safety, and night-work regulations separately. In an alternative specification, we define $LaborLaw_{sd}$ as a continuous variable that reflects the years elapsed since the enactment of the labor law in a treated state s, as of decennial year d. This variable measures the total duration (in years) since the state implemented the specific labor law by the time the decennial year d arrives. To simplify interpretation, the measurement is adjusted in decades (by dividing by 10), meaning that each unit change represents a period of ten years. This measure remains at zero for years before the treatment and in all years within control states. Our parameter of interest is β.

The terms γ_s and τ_d are state and decade fixed effects respectively; X'_{isd} is a list of individual level exogenous controls including age, ethnicity and race, and ϵ_{isd} is our error term. In all regressions, standard errors are clustered at the state level.

Panel A of Table 2 presents our baseline estimates of the effect of different labor regulations on female gainful employment using Two-way fixed effects (TWFE) specifications. Columns (1)–(3) report estimates from the binary form regressions in which *Seating laws*, *Health & safety laws* and *Night-work laws* are binary indicators to whether a law was implemented in a specific state by a given decennial year. We also rely on a continuous measure computed as the amount of time in years (scaled in decades) since the passage of a given female-specific labor regulation in columns (4)–(6). While all columns include state and decade fixed effects, regressions in columns (2), (3), (5) and (6) additionally include individual level characteristics such as age, race, and ethnicity, and are thus adopted as our preferred specifications.[41]

It is noteworthy that women in personal and domestic services were left totally unprotected by these female-specific protective regulations (Kessler-Harris (1982))[42]. Baron (1981) goes further to argue that female-specific regulation might have served to keep women's role limited to domestic work and maternal pursuits (as he refers to "The Cult of Domesticity"). We thus exclude women employed in domestic work, private households, and midwives from our sample in columns (3)

[41] The results remain the same when we include a second-order polynomial for age in the analysis.
[42] For more details, see Winslow (1928).

and (6) of Table 2.[43]

What clearly emerges is that female-specific labor regulations are positively associated with female gainful employment. While the positive impact of seating regulations is only partly present in the continuous form regressions, estimates on health and safety and night-work regulations are positive and statistically significant across all specifications. In the binary regressions, the implementation of health and safety and night-work regulations is associated with an increase of female gainful employment between one and two percentage points, respectively (column (2), Panel A of Table 2). Given the average share of females employed during our analysis period, this effect represents, roughly, between 4% and 8% increase in female gainful employment. This increase accounts to about 10% to 20% from the total increase in female gainful employment during our period of analysis. The estimates in the continuous regressions suggest that 10 years of exposure to health and safety and night-work regulations is likely to significantly increase female gainful employment by about one percentage point (column (5), Panel A of Table 2).

Once domestic work is excluded, the magnitude of the effect of health and safety and night-work regulations roughly doubles and estimates become highly statistically significant in both binary (column (3)) and continuous regressions (column (6)). This finding suggests that our effects are not driven by women (formally) employed in the household service sector.

Next, we examine the sensitivity of our estimated effects of female-specific labor regulations to the staggered difference-in-differences estimation.[44] We confirm our main results reported in Panel A of Table 2 by relying on De Chaisemartin and d'Haultfoeuille (2022)'s average treatment estimators for three decades following the regulations' implementation in Panel B. Estimates remain similar in magnitude and highly significant for both health and safety and night-work regulations. In the remainder of the paper, we thus present estimates from the TWFE specifications for both the full and restricted samples.

Given that an increase in female labor force participation is often associated with lower fertility (Becker (1960), Galor and Weil (1996)), we also examine the impact of these regulations on women's marital and fertility outcomes in Appendix Table A3. We find no evidence that female-specific regulations affected marital decisions. Interestingly, the results regarding fertility decisions suggest

[43] We verify that none of the labor regulations have an impact on women's domestic work, validating the sample restriction.

[44] De Chaisemartin and d'Haultfoeuille (2022) propose treatment effect estimators that are robust to heterogeneous treatment effects and that can be used in our context where the treatment is binary and the design is staggered.

a contrary effect; for instance, a 10 years exposure to night-work regulations are associated with a significant increase of about 3% in the number of children (Panel B, columns (5) and (6)). This unexpected outcome or its absence could be due to the nature of these regulations. For instance, seating regulations would provide more comfort for pregnant women, and health and safety regulations can provide longer maternity leaves, no-carrying of heavy weights, and less exposure to toxic substances. Night-work regulations could also be particularly valuable for married women due to traditional gender roles in household responsibilities.[45]

5.1.2 Dynamic Effects

Estimates from the difference-in-differences specification in Equation (1) could be misleading if states that adopted these regulations were experiencing differential trends in female gainful employment prior to adoption (i.e., potential violation of the parallel trends assumption).

To assess this concern, we consider the dynamic impacts of the adoption of the three female-specific labor regulations on female gainful employment using the following two-way fixed effects event study specification:

$$y_{isd} = \sum_{j=-3}^{3} \beta_j \cdot LaborLaw_{sd}^{j} + \beta_4 LaborLaw_{sd}^{4+} + \beta_{-4} LaborLaw_{sd}^{-4+} + \gamma_s + \tau_d + \lambda X'_{isd} + \epsilon_{isd}, \quad (2)$$

where y_{isd} is equal to one if woman i residing in state s in decennial year d reports gainful employment, and zero otherwise. Our parameter of interest is β_j corresponding to the binary variable $LaborLaw_{sd}^{j}$ equal to one if the state adopted the labor law exactly j decades ago.[46] $LaborLaw_{sd}^{4+}$ equals one if the female-specific law was adopted four or more decades in the past, and $LaborLaw_{sd}^{-4+}$ equals one if the female-specific labor law was adopted 4 or more decades in the future. The remaining of Equation (2) is the same as the main regression in Equation (1).

While decadal data can provide valuable insights into long-term trends, it is crucial to acknowledge its limitations when considering leads and lags. The reduction in granularity can hinder the

[45] Another potential explanation is that during this phase of development in the United States, women were starting to get more engaged in jobs, but not in careers. See Goldin (2006) for a detailed discussion on changes in women's horizon, identity, and mode of making decision during this era.

[46] We restrict our interest to three periods before and three periods after regulations' implementation to include the majority of states in our analysis. The number of states with a value "one" for $LaborLaw_{sd}$ decreases significantly outside of the three-decades from implementation bandwidth.

precise identification of leads and lags or the detection of subtle changes in trends. Additionally, decadal data may fail to capture the immediate impacts of an intervention, further complicating the assessment of leads and lags. It is thus important to note that this analysis comes with significant caveats. Nevertheless, to the extent that the findings remain informative, they suggest the absence of pre-existing trends.

Appendix figure A1 plots the estimates on the leads and lags of the adoption of seating, health and safety, and night-work regulations, in Panels A, B, and C, respectively. We normalize the coefficient on the decade prior implementation of each law (i.e., omit $(d-1)$). The coefficients on the lead terms are all close to zero and statistically insignificant, indicating the absence of important pre-trends in female gainful employment prior to implementing health and safety and night-work labor regulations. The lag coefficients indicate a moderate increase in female gainful employment in the decades following the passage of health and safety and night-work regulations, with a larger increase documented in subsequent decades. One could argue that the over-time increasing effects could be due to compositional changes given that the event-study becomes less balanced in further leads and lags. We argue however that this increase is potentially explained by the reinforcements of female-specific labor regulations documented in Appendix Tables A1 and A2.[47]

We examine the sensitivity of our estimated leads and lags effects of female-specific labor regulations to the staggered difference-in-differences estimation. We report our estimates from De Chaisemartin and d'Haultfoeuille (2022)'s methodology in Panels A, B, and C of Appendix Figure A2. Estimates on the lead terms represent a-well estimated zero for all regulations and estimates on the lag terms of health and safety and night-work regulations remain positive, and statistically significant as for the first decade following the regulations' implementation.

The event-study graphs from this methodology further confirms our parallel trends assumption, and supports our claim that reinforcements in the adopted regulations increases (on average) female gainful employment.

[47] This explanation is likely to hold especially that reinforcements and revisions were expanding these regulations to include a larger number of industries and/or occupations as well as implementing additional amendments to the regulations, such as increasing penalties for violations and other measures. We conduct a formal investigation to examine how revisions and reinforcements of these regulations impact female employment opportunities. To this end, we create continuous variables that measure the number of reinforcements enacted by treated states for seating, health and safety, and night-work regulations for each decade. Our findings, as reported in Appendix Table A4, demonstrate that the implementation of additional amendments to the regulations has a positive impact on female gainful employment. This holds true for both the sample encompassing all women and the restricted sample, which excludes domestic work (housekeepers, laundresses, and other private household workers) and midwives.

5.2 Robustness of the Identification Assumption and Alternative Explanations

Our difference-in-differences specification consists of comparing the likelihood of female employment in treated versus control states, before and after the implementation of the specific female-specific labor regulation under consideration.

Our identification assumption is $E(\epsilon_{isd} LaborLaw_{sd} | \gamma_s, \tau_d, X_{isd}\lambda) = 0$; that is, after accounting for fixed effects specific to the state and decade, as well as individual-level factors that influence employment choices, the introduction of female-specific labor regulations is considered independent of female employment outcomes. In other words, our assumption is that there were similar trends in female employment before the implementation of female-specific labor regulation, both in states where the regulations were passed (treated states) and in states where they were not (control states).

This section offers additional evidence to reinforce our identification strategy. First, we conduct a formal analysis to investigate whether observable characteristics at the state level prior to the policies implementation can predict the year when a female-specific labor regulation was enacted in treated states. Second, we replicate our baseline specification while taking into account pre-passage state-level characteristics. Third, we explicitly control for other legislative factors, such as equal pay laws, maximum hours laws, and suffrage laws to demonstrate that contemporary labor regulation does not drive our findings. We also account for the types of female-specific labor regulations that were already passed in a given U.S. state, by including all three treatment variables in the same regression. We then restrict the sample to "early adopters" states, i.e., those that implemented female-specific labor regulations before 1900 (prior to the Progressive Reform Era and major economic transformations). Additionally, we consider contemporaneous factors such as state-level immigration and levels of economic development. Lastly, we employ an instrumental variable strategy to further support our analysis.

Predicting Year of Passage As outlined in Section 2, the origins of labor regulation for women can be attributed to multiple factors. Given that some of these factors could potentially lead to a bias in our estimates, we formally investigate the underlying motivations behind the implementation of seating, health and safety, and night-work regulations in the states that enacted such regulation.

Appendix Table A5 presents the results obtained from conducting the aforementioned analysis. Specifically, we focus on treated states and employ regression models to examine the relationship

between the year of enactment for seating, health and safety, and night-work regulations in a given U.S. state and various lagged economic and political state-level characteristics. The economic characteristics include factors that account for differences in the demand for and supply of female workers. For instance, we consider variables such as a dummy indicating the Southern Census region, whereby the lesser industrialization in the southern states may have influenced the demand for female labor; and lagged employment shares in manufacturing (including the lagged share of workers in the manufacturing industry and the lagged share of female manufacturing workers). One plausible concern is that the regulations examined in the paper, which targeted the working environment in sectors such as manufacturing, were enacted due to an initially higher female employment shares.[48] Political characteristics include factors potentially correlated with female employment, capturing the potential influence of political movements and organized labor, as captured by assemblies and actions such as those of the National Women's Party and labor unions.

Estimates indicate that Southern regions enacted night-work regulations around nine years after their non-Southern counterparts, highlighting a potential regional pattern in implementation.[49] Interestingly, estimates on the lagged share of women in manufacturing and clerical positions suggest a significant positive correlation with the year of passage of health & safety and night-work regulations, respectively. Moreover, the consistent positive association between the timing of passage of these regulations and actions by the National Woman's Party implies that states with stronger women's political movements tended to adopt these regulations later.[50]

These findings highlight two significant conclusions that align with our discussion in Section 2.1. First, while industrialization, proxied by the lagged employment share in manufacturing, does not appear to be correlated with the timing of implementation of protective policies, the earlier adoption in states with a lower representation of women in manufacturing supports the argument of progressive reformers that protective regulations were initially designed to attract female workers by addressing the challenging and often detrimental working conditions at that time. Additionally,

[48] We investigate whether the lagged female employment shares in clerical and related occupations significantly predict the timing of law passage, given the emergence of more appealing office job opportunities, enticing women to join the workforce while simultaneously luring them away from other sectors (Goldin (2006), Killingsworth and Heckman (1986)).

[49] The positive association between the Southern Census region dummy variable and the timing of passage of health and safety, and night-work regulations aligns with the findings of Landes (1980), indicating that southern states were less likely to have passed maximum hours regulations by 1914.

[50] The explanatory power of the variables across columns (1) through (3) of Appendix Table A5 is high with adjusted R-squared equal to 0.39, 0.44 and 0.52 respectively.

this goes against the concern that labor regulations targeting specific industries resulted from a higher concentration of female workers in those sectors, thus necessitating the passage of these regulations to regulate their work. Thus, differences in the share of women in the manufacturing industry prior to the enactment of the regulations do not drive our findings, and if anything, they introduce a downward bias in our industry-specific estimates.

Interestingly, the significant delay in implementation associated with the women's political movement resonates with the historical narrative regarding how the feminist movement opposed these legislative measures, perceiving them as discriminatory on the basis of sex.

Given the significance of some of the factors in predicting the timing of passage of female-specific labor regulations, we replicate our preferred specifications by incorporating pre-passage state-level characteristics in columns (1)–(2) and (5)–(6) of Table 3 using the binary and continuous measures of our explanatory variable, respectively. The results demonstrate the overall consistency of our findings, with positive and statistically significant coefficient estimates for female-specific labor regulations.

Other Female-Specific Regulations To address potential confounding factors, we also replicate our baseline specification and incorporate explicit controls for additional legislative factors, including equal pay laws, maximum-hours laws, and suffrage laws in columns (3)–(4) and (7)–(8) of Table 3 using the binary and continuous measure of our explanatory variable, respectively.[51] Our estimates for health and safety and night-work regulations remain statistically significant, with comparable magnitudes to our main findings reported in Table 2.[52]

Our empirical approach analyzes the impact of seating, health and safety and night-work regulations separately. However, this strategy does not account for the fact that some U.S. states may have already passed one of the other types of regulations. If there exists complementarity in having multiple protective regulations for female workers, such as states being more inclined to pass additional regulations once the initial law is in place, it could result in a deviation from the assumption of parallel trends. This means that control states with a different protective regulation would

[51] Of note, equal-pay laws were enacted by the states of Michigan and Montana in 1919. It is worth noting that certain states granted suffrage rights to women before the passage of the Nineteenth Amendment in 1920, which mandated women's voting rights nationwide. Hence, we rely on the variation in the timing of suffrage laws across states and assess whether the effects of female-specific labor regulations remain robust when controlling for this factor. Data on suffrage laws' passage is obtained from Lott and Kenny (1999) and Miller (2008).

[52] Throughout our analysis period, several states enacted female-specific minimum wage laws. However, the majority of states implemented such regulations in the last decade of our sample. Further controlling for the passage of minimum wage laws does not substantially affect the magnitude of our results.

already be on different trend trajectories compared to states that have not enacted any protective labor regulation.

To address this potential issue, we explicitly account for the types of female-specific labor regulations that have already been implemented by incorporating all three treatment variables into the same regression model. Columns (1)–(4) of Appendix Table A6 presents the results of this analysis, which includes binary indicators that take the value of one if a particular U.S. state had already passed other female-specific labor regulation as of specific decade prior to the enactment of the law under examination. Our estimates maintain a magnitude similar to the main effects presented in Table 2.

Progressive Era & Structural Economic Transformations: The era spanning from 1900 to 1940, which coincides with the Progressive Reform Era, witnessed significant social change and substantial shifts in various sectors of the United States economy. Alongside the noteworthy rise in social and women's movements, there was a noticeable surge in appealing office job opportunities during this period, enticing women to join the workforce while also potentially drawing them away from other sectors (Goldin (2006), Killingsworth and Heckman (1986)). Prevailing narratives concerning women's participation in the labor force during the early 20th century often emphasize the emergence of clerical work in the economy and its relative appeal to women. Naturally, such employment is perceived as cleaner and generally more pleasant and comfortable than other forms of labor.

To address these concerns and as demonstrated previously, we replicated our baseline specification, controlling for pre-passage state-level characteristics, including but not limited to the lagged female employment shares in clerical and related occupations, as well as political movements and organized labor. In this analysis, and to further isolate the potential dynamic effects of the Progressive Reform Era and the underlying economic transformations, we examine the impact of female-specific labor regulations, focusing solely on "early adopters" who implemented these regulations before the onset of the Progressive Era and the major economic transformations (i.e., before 1900). Results are reported in columns (5)–(8) of Appendix Table A6. Although estimates remain positive and statistically significant for night-work regulations, their magnitudes are comparatively smaller. This outcome is anticipated, given the relatively brief period examined post-implementation and the the fewer number of states subjected to treatment and also potentially due to the fact that revi-

sions and reinforcements took place later on.

Immigration and Economic Development We now shift our focus to investigating other state-level factors that might play a significant role in determining employment decisions, including the contemporaneous economic conditions of the state, occupational distribution, and changes in occupational distribution. Additionally, we explore the impact of immigration, particularly the plausible self-selection of foreign-born women to states where they could find work. In columns (1) and (2) of Appendix Table A7, we replicate our baseline specification for the full and restricted sample while accounting for the contemporaneous average level of male gainful employment at the state level. In columns (3) and (4), we introduce controls for the average state-level occupation score. Lastly, in columns (5) and (6), we account for the share of foreign-born women out of the total female population. Our findings for both the binary (passage) and continuous (years since passage) independent variables in Panels A and B, respectively, remain robust and similar in magnitude.

Instrumental-Variables Strategy In order to account for any other non-observable factors potentially leading to endogeneity in our treatment, we employ an instrumental variables (IV) strategy that leverages plausibly exogenous variation in the diffusion of female-specific labor regulations across states within the same region. Our IV strategy relies on regional waves of female-specific labor law passage as instruments for state-level law passage, following the approach outlined by Acemoglu et al. (2019). We construct an instrument based on the earliest year of passage of a female-specific labor law within each specific region. In Appendix Table A8, we present the results of our instrumental variables (IV) analysis. The relatively high first-stage *F statistics* indicate that the implementation of seating, health and safety, and night-work regulations followed a regional wave pattern.[53]

In columns (1) and (3) of Appendix Table A8, we once again present our main estimates derived from employing two-way fixed effects differences-in-differences estimation, which were originally reported in Table 2, for both the full sample and the restricted sample excluding women whose primary gainful employment involves domestic tasks (such as housekeeping, laundering, and other private household roles), as well as midwifery. In columns (2) and (4) of Appendix Table A8, we

[53]In order to account for time-invariant region-specific factors that could potentially be correlated with the adoption of female-specific labor regulations and shifts in female labor supply, as well as the specific cultural values within regions that might affect the demand for female labor and the passage of these regulations, we conducted a supplementary analysis. In this analysis, we replaced state fixed effects with U.S. Census region fixed effects. We rely on the "region" variable from IPUMS which identifies the region and division where the housing unit was located. The outcomes of this analysis are presented in Appendix Table A9, and they demonstrate that our results remain robust overall.

reproduce these findings using our instrumental variable (IV) strategy.[54] Overall, the IV analysis supports our main findings, demonstrating an increase in female gainful employment resulting from the implementation of female-specific labor regulation. The magnitudes of the effects of health & safety and night-work regulations are highly comparable between OLS and IV estimates.[55]

Alternative Inferences Lastly, we demonstrate the robustness of our main findings to employing alternative inference methods, as shown in Appendix Table A10. We replicate our main results using robust standard errors in Panel A, and wild cluster bootstrap p-values in Panel B.[56] Our results continue to be statistically significant at conventional levels.

5.3 Effects on Industry-Specific Local Female Employment

To confirm the validity of our identification assumption and to ensure that our results are not influenced by pre-existing trends in female employment, we leverage the fact that not all industries were impacted by female-specific regulations and conduct an aggregate analysis at the industry level.[57]

As elaborated in Section 4, female-specific labor regulations primarily targeted specific industries. Industries are defined based on the U.S. Census classifications. Our analysis includes five industries treated during our period of study: mercantile, manufacturing (both durable and non-durable), personal services, and mining. All never treated industries are grouped into "other industries" and used as a control group. We rely on the industry level variation and estimate the following specification:

$$SFGE_{jsd} = \beta \cdot LaborLaw_{jsd} + \gamma_s \cdot \tau_d + \mu_j \cdot \tau_d + \gamma_s \cdot \mu_j + \epsilon_{jsd}, \tag{3}$$

where the unit of observation is an industry j, in state s, in decade d. Our dependent variable of interest, share of female gainful employment ($SFGE$) is the size of employment in a certain industry relative to the total population of women aged between 16 and 64, within a given state and

[54] We refrain from replicating our main analysis using the "years since passage" specification because our instrument fails to predict the length of exposure, as indicated by the relatively weak first-stage *F statistics*.

[55] The IV estimates from seating regulations exhibit significant changes, likely attributable to bias in the difference-in-differences estimates, as the parallel trends assumption is violated for this particular law. This is clearly evident in the leading indicators depicted in Panel A of Appendix Figure A1, unlike the trends observed with other regulations.

[56] We use wild cluster bootstrap given the relatively small number of unbalanced clusters that contribute to the identifying variation (MacKinnon and Webb (2017), Roodman et al. (2019)).

[57] We replicate our main analysis by examining the effects on aggregate local female employment in Appendix Table A11, and our findings remain consistent.

time period:[58]

$$SFGE_{jsd} = \frac{\#womenemployed_{jsd}}{\#women_{sd}}, \tag{4}$$

The explanatory variable $LaborLaw_{jsd}$ is now an indicator that equals one for industry j in state s that has female-specific labor regulation as of decade d and in the following decades, and zero otherwise. Thus our coefficient of interest represents a triple difference estimator (DDD) , since treatment is administrated at the state-year level, but only with a subset of industries being affected (see Section 4 for more details on affected industries).

In addition to the state and decade fixed effects included in our baseline specification, the triple difference framework allows us to further include state by decade fixed effects that would address the concerns of local positive trends in female employment, and allow us to absorb location specific trends in law enforcement, permanent migration, rise of popularism, or labor demand shocks (e.g., World War I). We also include industry specific fixed effects (μ_j) to account for time-invariant industry specific characteristics (e.g., predominance in male or female employment), as well as industry by decade fixed effects to account for structural changes within industries and absorb industry-specific trends (e.g., change in demand and technological progress within industries). We double-cluster standard errors by industry and state.

Table 4 presents the results from estimating Equation (3). Each row displays coefficients from a separate regression. Columns (1) to (3) depict binary form regressions (passage), while columns (4) to (6) present continuous form regressions (years since passage). Moreover, columns (1) and (4) incorporate state, decade, and industry fixed effects; columns (2) and (5) add state by decade fixed effects; and columns (3) and (6) further include industry by decade fixed effects, representing our preferred specification. Our estimates indicate that, in a linear setting, the average share of females employed during our study period increases by 4% to 7% in targeted industries following the introduction of health and safety and night-work regulations, respectively (column (3)). These findings suggest that the increase of a strikingly similar magnitude in female gainful employment observed in Table 2 mainly stems from the increase in employment in these targeted industries.[59]

[58] We replicate this analysis using the logarithm of female employment rather than employment shares, and results remain robust.

[59] Of note, during the inaugural census year of 1860, 72% of employed women worked in the affected industries. Throughout the entire analysis period, this proportion stands at 65%.

To gain more insights on the effects of female-specific regulations on the impacted industries, we revisit our difference-in-differences analysis. We consider a U.S. state s as treated in a given decennial year d if it enacted a labor law pertaining to the industry of interest.[60] Appendix Table A12 indicates that while seating regulations have no discernible effect, health and safety and night-work regulations contributed to a significant increase in the share of women employed in the manufacturing sector. Yet, as observed in column (4), night-work regulations were associated with a decrease in female employment in the personal services sector.[61] These findings suggest the existence of a sectoral transition upon implementation of female-specific labor regulations, primarily favoring manufacturing.[62]

6 Understanding the Rise in Female Gainful Employment

In this section, we empirically investigate the factors that could have contributed to the rise in female employment.

Demand for Labor The positive effects observed in our difference-in-differences analysis can be attributed to an increase in the demand for labor. If the increase was driven by a rise in the demand for labor, such as the growth of the manufacturing industry - which might be potentially correlated with the implementation of female-specific labor regulations - we would anticipate a positive impact on male employment.

We thus conduct an additional falsification test to examine whether the passage of labor regulations is orthogonal to the expansion of specific industries and the economic development of the "treated" states by examining the impact of these regulations on male employment in Appendix Table A13. We find no evidence that female-specific labor regulations had an impact on male employment. Our estimates are statistically insignificant and close to zero, both in binary (passage)

[60] This specification does not allow us to account for industry, industry by decade, or state by decade fixed effects as our variation is at the state level.

[61] It is noteworthy that when excluding the subset of women reporting domestic tasks (e.g., housekeeping, laundering, and other private household roles) and midwifery as their primary gainful employment, the estimates remain consistent across industries. The exception is the coefficient on personal services, which becomes close to zero and turns statistically insignificant. This suggests that the decrease in female employment in personal services is mainly due to the decrease in domestic work. Appendix Figure A3 reveals that most women in the service sector held roles as domestics and laundresses.

[62] Such observations align with Goldin (2006), who argues that female employment in manufacturing saw significant growth starting in the 1910s. We argue that this increase is partly attributed to the implementation of female-specific labor regulations improving women's labor conditions in this industry.

and continuous (years since passage) regressions (columns (1), (2), (4), and (5)).[63] However, one could argue that the absence of the effect is due to the fact that male labor is already saturated (average male employment in our sample is about 92%). To rule out this possibility, we restrict the sample to female dominated sub-industries in columns (3) and (6).[64] We find that the demand for male-employment did not increase even in female-dominated sub-industries.[65]

We additionally employ a triple-differences approach by introducing interactions between our explanatory variables and a binary gender indicator. This enables us to compare the changes in gainful employment experienced by men and women in treated and control states before and after the implementation of female-specific labor regulations. The outcomes of this analysis are presented in Appendix Table A14. Our findings reveal a consistent negative relationship between the female binary gender indicator and the likelihood of employment across all specifications. This result confirms that women were less inclined to work. Positive and statistically significant interaction terms provide evidence that female-specific labor regulations led to an increase in gainful employment for women, rather than men.

These results have two key implications. First, the absence of a negative effect indicates that substitution between male and female employment is negligible, suggesting that these regulations weren't burdensome to employers, nor did they encourage them to shift away from employing women. We thus confirm that the implemented regulations did not lead to a leftward shift in the female labor demand function. Second, the absence of a positive effect supports the idea that our main results are not driven by an increase in labor demand in states that adopted female-specific labor laws.

Age Categories and Marital Status During the late nineteenth century to the 1920s, female workers in the labor market were typically young and unmarried. Consequently, we would anticipate a greater impact of female-specific labor regulations on younger women. In Appendix Table A15, we present estimates derived from Equation (1) using our two preferred specifications: binary (passage) and continuous (years since passage) exposure, across different age categories in Panels A and B, respectively. We divide the sample into four age groups: 16–25, 26–35, 36–45, and 46–65. We

[63] We plot estimates from the regression on male gainful employment in Appendix Figure A4. Here again, we find no evidence of a change in male employment following the adoption of seating, regulatory, or night-work regulations.

[64] For sub-industries, we follow the composition of the industry categories as described in U.S. Bureau of the Census, Alphabetic Index of Occupations and Industries: 1950 (Washington, D.C., 1950). We considered a sub-industry to be female-dominated if 66% or more (i.e., more than two-third) of its employees are women.

[65] We also find no impact on male employment in male-dominated industries.

are thus comparing women in each age category in treated states to women in the same age category in control states. While the impact of health and safety and night-work regulations is positive and statistically significant for all age categories, the largest effect is documented for younger women. In Panels A and B, estimates from column (1) indicate that health and safety regulations, as well as night-work regulations, are associated with a 2 to 3 percentage point rise in gainful employment among women aged 16 to 25. This increase is equivalent to approximately a 6 to 8% increase in the average female gainful employment within the 16 to 25 age bracket, compared to around a 4% to 7% increase for those between 26 and 35 years old. The increase in female gainful employment is even more pronounced when we exclude domestic work (column (2), Panels A and B).

We then leverage heterogeneity by marital status to examine whether the rise in female gainful employment solely arises from shifts in women's own-substitution elasticity resulting from a greater valuation of female-specific labor regulations with the introduction of non-wage amenities and improvements in working conditions. As discussed in Section 3, it was common during our analysis period for women to leave the workforce upon marriage. For married women, the stigma is a simple message: "only a husband who is lazy, indolent, and entirely negligent of his family would allow his wife to do such labor – and men are obliged to provide for their families" (Goldin (1994b)).

The strong societal stigma surrounding wives working outside the home is translated to a significant negative income effect. Therefore, if the female-specific labor regulations have indeed been effective in increasing societal acceptance regarding women's work, we would anticipate a larger increase in gainful employment among married women.

Table 5 provides estimates on female gainful employment for women based on their marital and fertility status. Point estimates from Panel A suggest that the enactment of regulations governing health and safety led to roughly a 5% rise in non-domestic gainful employment for single women (column 2) and a 10% increase for married women without children (column 4). Night-work regulations similarly proved effective in boosting non-domestic gainful employment for both single and married women without children, by approximately 5% and 19%, respectively.

The fact that we observe effects for both unmarried and married women provides suggestive evidence that female-specific labor regulations successfully increased the elasticity of women's labor supply by influencing both parameters: the substitution and income effect. Specifically, the income

effect is expected to be minimal for single women, implying that their increased labor supply stems from a greater appreciation of enhanced work conditions. Conversely, the income effect plays a more significant role for married women, where female-specific labor regulations may have effectively mitigated the substantial negative income effect by improving societal acceptance of women's work. This, in turn, leads to a further increase in the elasticity of women's labor supply function, facilitating their entry into the labor force at a certain wage level.

Additionally, our findings reveal a significant increase in non-domestic gainful employment for married women who are mothers following enactment of night-work regulations, aligning with Goldin (1988)'s argument that married women value shorter workdays. However, married women with children encounter additional barriers to entering the labor force, especially the responsibilities of motherhood and household duties. Although work conditions have improved, this might not have been sufficient to overcome the considerable opportunity cost of employment, thus making it difficult to compensate for the loss of utility resulting from societal stigma. This can potentially explain the weak effects of health and safety regulations that we observe for married women with children.

Social Status Towards the end of the nineteenth century, the majority of female workers typically hailed from low-income households and often had limited education.[66] In fact, stigma against women's employment tends to strengthen the income effect, implying that the higher the income, the greater the likelihood of a significant stigma effect taking place. Thus, if social policies like the female-specific labor regulations in question could foster greater acceptance of women's employment, we should expect to see an increase in labor participation among previously excluded demographics, particularly middle-class and educated women.

In Panels A and B of Table 6, we introduce interactions between our explanatory variables and proxies for income and literacy within a triple-differences framework. In Panel A, the variable $Homeowner$ is a binary indicator that takes the value of one if the household owns its housing unit, and zero if it is rented. This variable serves as a measure of the economic status of a woman's household. Our findings reveal a consistent negative relationship between women's household home ownership and their likelihood of employment across all specifications. This result confirms that women from higher-class backgrounds were less inclined to work due to the relatively higher

[66] As noted by Abbott (1906), women from lower-class backgrounds had historically been engaged in the workforce.

income effect. Furthermore, we find that estimates on the interaction terms $laborlaw \times Homeowner$ are positive and statistically significant throughout.

In line with the literature and historical accounts, we find that literate women were also less likely to work as documented in Panel B of Table 6. However, their likelihood of engaging in paid work significantly increases upon the female-specific labor regulations implementation. The negative effects observed in the single policy terms for illiterate women and the positive effects for literate women in the interacted terms suggest a potential redistribution of employment based on literacy levels. Nevertheless, the combination of these effects confirms a net positive impact on female gainful employment.

Overall, the increased labor participation of upper-class women in states that passed female-specific labor regulations provides suggestive evidence that the income effect may have been mitigated by broader societal acceptance of women's employment.

Given that many low-income households were headed by foreign-born individuals, we investigate whether female-specific labor regulations had different effects based on women's race (Panel A), nativity (Panel B), and Hispanic status (Panel C) in Appendix Table A16. Our estimates indicate that the impacts of health and safety and night-work regulations varied distinctly across nativity and Hispanic origins. We document that the rise in female gainful employment is primarily propelled by native individuals, while protective labor regulation for women appears to decrease female gainful employment among foreigners. These findings align with our previous results, indicating that middle-class women demonstrate a higher likelihood of engaging in work following the implementation of labor regulations. Moreover, these results suggest the presence of worker substitution among women by nativity status.[67] We also offer weak evidence suggesting that the effect of female-specific labor regulations differed by race, with white women exhibiting a higher likelihood of participating in both domestic and non-domestic gainful employment.[68]

To further validate whether greater societal acceptance of women's employment is a pivotal

[67] This finding is in-line with previous studies that documented a decrease in employment shares in manufacturing in 1920 for foreign-born women and daughters as a result of female-specific maximum-hours regulations (Landes (1980)).

[68] Our findings show weak evidence of a positive effect of female-specific labor regulations on non-white women which aligns with historical accounts that, despite Progressive Era female-based labor laws, Black women were largely unaffected (Doak and Anderson (1931); Woloch (2017)). This exclusion arose from their concentration in the most marginalized jobs, often omitted from protective legislation. Unlike other women, Black women encountered distinct employment barriers, primarily working as maids, laundresses, and cooks with limited access to manufacturing or retail. Their jobs, marked by long, irregular hours in domestic service, fell outside the protective reach of labor laws, effectively excluding them from the benefits of these policies (Woloch (2017)).

channel through which female-specific labor regulations might have increased female gainful employment, we conduct an analysis of urban/rural heterogeneity. It is reasonable to anticipate that social stigma is less pronounced for women working in urban areas; hence, the impact of female-specific labor regulations might be more prominent in rural regions. In Appendix Table A17, we examine this by replicating our primary findings while segmenting the sample into women situated in urban and rural settings. To do so, we rely on "urban" variable from IPUMS, which identifies whether a household's location is urban or rural. Panel A focuses on women in rural areas, while Panel B restricts to women in urban areas. We find that the effects of female-specific labor regulations are indeed more pronounced in rural locations, with point estimates of a similar magnitude to those in Table 2.

Inter-industry Mobility and Segregation During the late nineteenth century, women's employment opportunities were limited and confined to specific jobs, influenced by the prevailing cultural and social norms of the era where certain jobs were deemed more socially acceptable for women than others.[69] If greater social acceptance of women's employment played a role in altering female labor supply, one would anticipate that "suitable occupations" would serve as an initial entry point.

In Appendix Table A18, we restrict the sample to women employed in occupations such as teaching, nursing, *non-private* domestic services, textile work, office work, and social work. We find that health and safety regulations resulted in a 10% increase in women's employment in these occupations (column 2), while night-work regulations are associated with a 15% increase. Notably, these effects are more pronounced compared to our main estimates presented in Panel A of Table 2.

Furthermore, social stigma against women's employment tends to be more prevalent in male-intensive industries, whereas it may be less pronounced in female-dominated or mixed industries. If female-specific labor regulations were successful in boosting social acceptance of women's employment, we should expect to see a rise in female gainful employment even within male-dominated industries. In Appendix Table A19 we examine the impact of seating, heath and safety, and night-work regulations on women's employment in male versus female-dominated sub-industries, in Panels A and B, respectively. We classify sub-industries as female-dominated (male-dominated)

[69] Office work was a relatively new profession for women in the late nineteenth century. Women were employed as clerks, typists, and bookkeepers in offices. This was seen as a respectable profession for women, as it involved working in a clean and respectable environment. Goldin (2006) also argues that female employment in clerical work expanded enormously beginning in the 1910s.

if 66% or more (i.e., more than two-third) of its employees are women (men).[70] We find that female-specific labor regulations led to an increase (decrease) in female gainful employment in male-dominated (female-dominated) industries suggesting the existence of inter-industry mobility in of female workers.[71]

Finally, we investigate the impact of female-specific labor regulation on gender occupational segregation. To measure segregation, we construct a Duncan index (Duncan and Duncan (1955)) for each industry, ranging from zero to one. A value of zero represents perfect gender integration within the industry's workforce, while a value of one indicates complete gender segregation. This index quantifies the percentage of employed women (or men) who would need to change occupations for the occupational distribution to be equal between genders in a given industry.

The results of our analysis are presented in Appendix Table A20. We find limited evidence that health and safety regulations increased segregation in the manufacturing industry, although the effect is not statistically significant at conventional levels. On the other hand, night-work regulations are associated with a significant decrease in occupational segregation in the personal services industry. This reduction in segregation may be attributed to women reshuffling and transitioning away from predominantly female-dominated occupations.

The findings from various heterogeneous analyses presented in this section offer empirical evidence supporting the notion that increases in female labor supply originated from shifts in both substitution and income effects. While changes in women's willingness to participate in paid employment due to valuation of the benefits associated with these regulations can explain part of the increase in female gainful employment, positive shifts in female labor supply cannot be solely attributed to changes in the substitution effect parameter. Through the enhancement and regulation of working conditions, the implementation of female-specific labor regulations has mitigated the income effect by fostering greater societal acceptance of women's employment. Consequently, the labor supply function has become more elastic, making women more responsive to changes in labor demand at a fixed wage level, thereby enhancing their likelihood of employment.

[70] For sub-industries, we follow the composition of the industry categories as described in U.S. Bureau of the Census, Alphabetic Index of Occupations and Industries: 1950 (Washington, D.C., 1950).

[71] The positive effect in male dominated industry further supports our argument that the impact of regulations did not stem from higher initial shares of female employment.

7 Conclusion

This paper revisits the debate on the impact of female-specific labor regulation on female employment by examining three protective labor regulations for women passed in the United States between 1860 and 1940: seating regulations (which made it mandatory to provide seating accommodations to female workers), health and safety regulations (laws regulating conditions of employment for women affecting health and safety) and lastly, regulations limiting night-work for women.

We estimate a causal effect of each of these regulations on the likelihood of female gainful employment using a difference-in-differences strategy. We document an increase in female employment in U.S. states that passed health and safety and night-work regulations, which we argue to be mainly driven by an increase in female labor supply. We show that our results remain robust to a number of falsification and robustness checks including controlling for multiple plausible confounding factors. We additionally consider the dynamic impacts of the adoption of female-specific labor regulation and document a moderate increase in female employment in the decades following the passage of health and safety and night-work regulations, with a larger increase documented in subsequent decades.

We argue that the shift in societal norms on women's work constitutes a primary channel through which female-specific labor regulations led to an increase in female employment. In the late nineteenth century, women faced significant barriers to employment due to societal stigma and the nature of available jobs. The inelastic female labor supply was characterized by a small substitution effect and a large negative income effect, meaning that shifts in labor supply were necessary for increased female employment. Female-specific labor regulations have the potential to increase societal acceptance and the two factors influencing labor supply: substitution and income effects. Changes in policies and working conditions can influence women's incentives and attitudes towards employment, while societal acceptance and support for women's work can also play a role in their labor participation.

The empirical analysis reveals that female-specific labor regulations had no significant impact on male employment, indicating that the increase in female employment was not driven by an increase in labor demand or substitution across genders. The effects of the regulations varied based on women's characteristics, with younger and married women without children experiencing a greater

impact, suggesting a shift in societal norms. Higher-class women, who were initially less inclined to work, were encouraged to enter the workforce due to a decrease in the income effect. Occupations considered more suitable for women, such as office work, were also significantly influenced by the regulations. Additionally, the effects of the regulations varied by women's race and nativity, with native women being more likely to enter the labor force.

Our industry-specific analysis reveals that the increase in female gainful employment stems from the increase in employment in targeted industries. Female employment experienced its most significant increase within the manufacturing industry due to health and safety and night-work regulations, while it declined in personal services as a result of night-work regulations. These findings imply the presence of a sectoral shift upon implementation of female-specific labor regulations, primarily favoring manufacturing.

Our findings have important implications for policymakers and advocates seeking to promote gender equality in the labor market. While the specific regulations we examine are no longer in effect, our research highlights the potential benefits of policies that promote women employment and reduce stigma around it. By reducing barriers to female labor supply, such policies can help promote economic growth and reduce gender disparities in employment.

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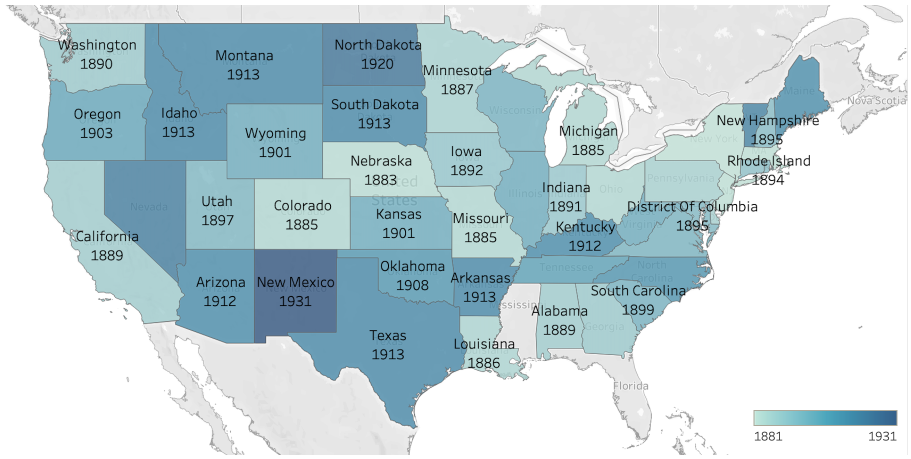
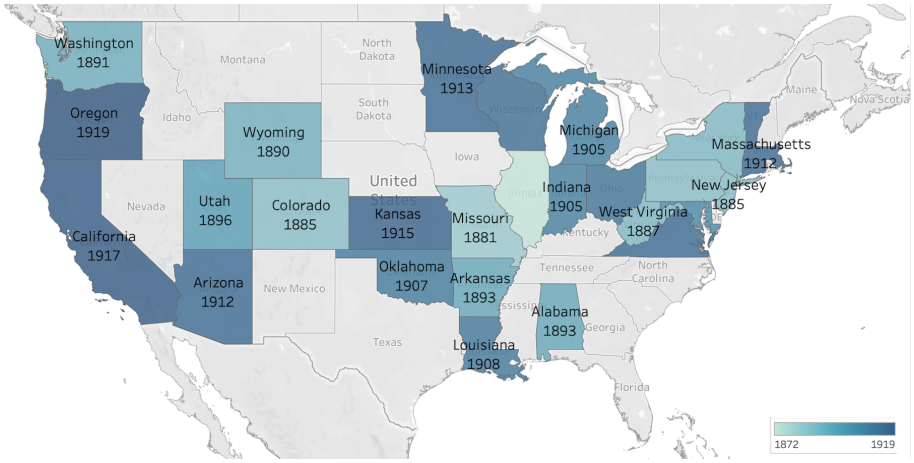
Figure 1: Female-Specific Labor Regulations, Year of Passage by State

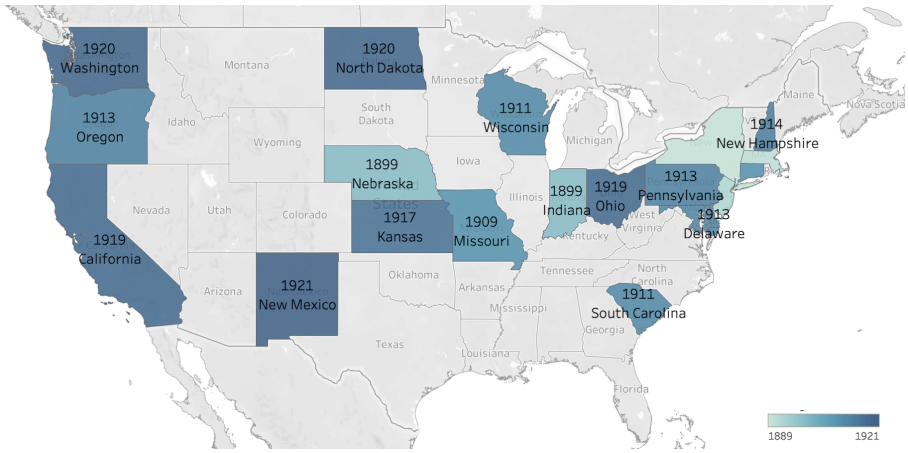
Panel A: Seating Laws



Panel B: Health & safety Laws

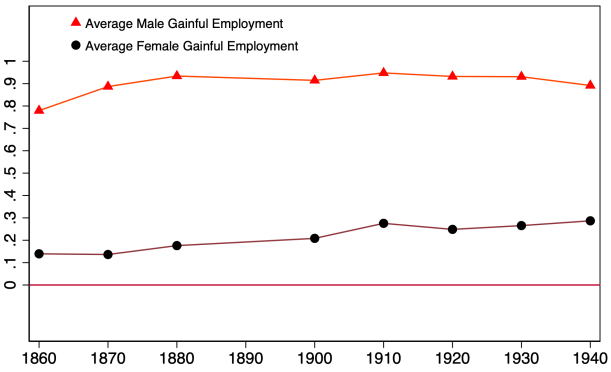


Panel C: Night-work Laws

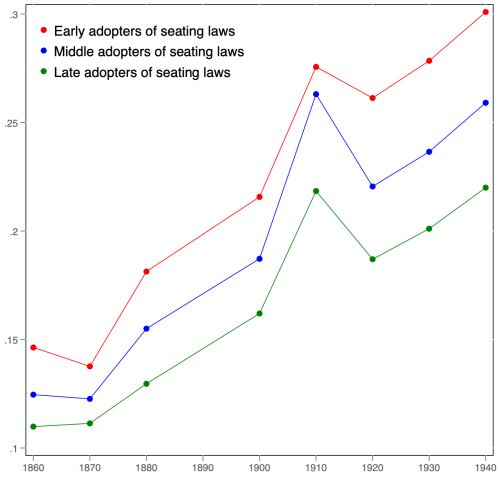


Notes: Chronological timing of the passage of seating, health and safety, and night-work regulations across different U.S. states. Areas shaded in gray represent U.S. states that did not implement a given law. *Source*: Authors' compilation.

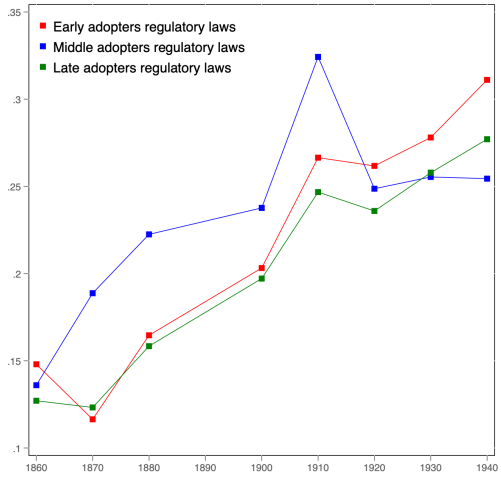
Figure 2: Gainful Employment Over Time



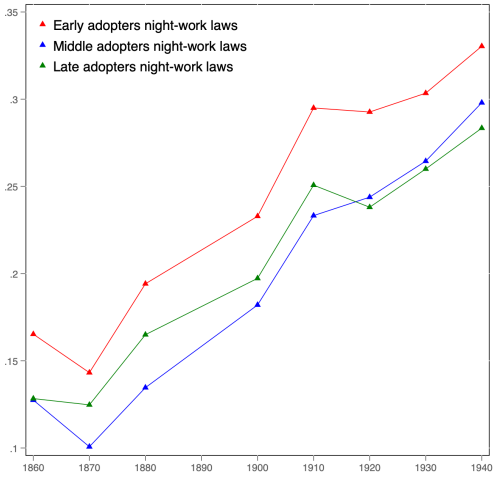
(a) Gainful employment over time by gender



(b) Female gainful employment: Seating laws



(c) Female gainful employment: Health & safety laws



(d) Female gainful employment: Night-work laws

Notes: Gainful employment refers to the proportion of women and men aged 16 to 65 engaged in gainful occupations. Graph (a) shows the average rates of gainful employment by gender, calculated by averaging the proportions of women and men reporting gainful occupations across U.S. states (excluding Alaska and Hawaii). Graphs (b), (c), and (d) display the average proportions of female gainful employment over time for U.S. states categorized by their early, middle, or late adoption of seating, health and safety, and night-work laws, respectively, determined by dividing states into equal intervals based on the enactment year. Individual-level data comes from the complete-count United States Population Censuses from 1860 to 1940, compiled by the Integrated Public Use Microdata Series (Ruggles et al. (2024))

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Table 1: Descriptive Statistics

	Women aged 16–65					
	1860	**1880**	**1900**	**1920**	**1940**	**1860–1940**
	(1)	(2)	(3)	(4)	(5)	(6)
Gainful Employment	0.139	0.176	0.209	0.249	0.287	0.245
	(0.346)	(0.381)	(0.406)	(0.432)	(0.452)	(0.430)
Age	32.93	33.74	34.39	35.39	36.65	35.25
	(12.28)	(12.60)	(12.69)	(12.70)	(13.11)	(12.84)
White	0.980	0.877	0.887	0.898	0.904	0.898
	(0.141)	(0.328)	(0.317)	(0.303)	(0.295)	(303)
Hispanic	0.006	0.006	0.005	0.009	0.014	0.009
	(0.074)	(0.076)	(0.071)	(0.092)	(0.117)	(0.095)
Married	.	0.735	0.727	0.766	0.774	0.759
	(.)	(0.441)	(0.446)	(0.424)	(0.418)	(0.428)
Number of Children	1.981	1.904	1.685	1.524	1.223	1.520
	(2.192)	(2.153)	(2.057)	(1.902)	(1.632)	(1.911)
Observations	6,547,670	12,902,648	20,373,624	29,716,056	41,175,990	181,245,915
States	46	48	51	51	51	51

Notes: The sample is restricted to women aged 16 to 65. Data is sourced from the complete-count U.S. Population Censuses (1860-1940) compiled by the Integrated Public Use Microdata Series (Ruggles et al. (2024)). Census data for 1890 is missing from all sources. Data includes all U.S. states except Hawaii and Alaska. Means and standard deviations for each variable of interest are reported in parentheses for the decades 1860, 1880, 1900, 1920, and 1940 in columns (1)–(5), while column (6) presents statistics for all Census years combined (1860-1940), excluding 1890. "Gainful Employment" indicates the share of women aged 16-65 reporting gainful occupations. "Age" reflects the individual's age in years, "White" is a binary indicator equal to one if the individual is white and zero otherwise, and Married" is a binary indicator equal to one if the individual (over 16) has ever married and zero otherwise. The "Number of Children" counts the individual's own children (of any marital status) residing in the same household.

Table 2: Female-Specific Labor Regulations and Female Employment: Passage & Years Since Passage

	Female Gainful Employment					
	Passage			Years since passage		
	(1)	(2)	(3)	(4)	(5)	(6)
	Panel A: Two-Way Fixed Effects (TWFE)					
Seating Laws	-0.003	0.001	-0.001	0.012**	0.010	0.020***
	(0.009)	(0.009)	(0.012)	(0.006)	(0.006)	(0.006)
Health & safety Laws	0.011	0.011*	0.022**	0.010***	0.008***	0.013***
	(0.007)	(0.007)	(0.008)	(0.003)	(0.003)	(0.003)
Night-work Laws	0.020**	0.018**	0.029***	0.010**	0.008**	0.014***
	(0.009)	(0.009)	(0.011)	(0.004)	(0.003)	(0.004)
	Panel B: ATE from De Chaisemartin and d'Haultfoeuille (2022)					
Seating Laws	0.032	0.019	0.044	0.012	0.007	0.016
	(0.024)	(0.025)	(0.0274)	(0.008)	(0.009)	(0.010)
Health & safety Laws	0.027***	0.017**	0.030***	0.011***	0.007**	0.012 ***
	(0.010)	(0.009)	(0.009)	(0.004)	(0.003)	(0.004)
Night-work Laws	0.029**	0.021**	0.032***	0.015**	0.011**	0.016***
	(0.013)	(0.011)	(0.012)	(0.006)	(0.005)	(0.006)
Observations	181,345,915	181,345,915	171,649,600	181,345,915	181,345,915	171,649,600
Dep. Var. Mean	0.24	0.24	0.20	0.24	0.24	0.20
Dep. Var. Std. Dev.	0.43	0.43	0.40	0.43	0.43	0.40
States	49	49	49	49	49	49
Individual Controls	No	Yes	Yes	No	Yes	Yes
State FE	Yes	Yes	Yes	Yes	Yes	Yes
Decade FE	Yes	Yes	Yes	Yes	Yes	Yes
Restricted Sample	No	No	Yes	No	No	Yes

Notes: The unit of observation is individuals (women only). The dependent variable, "female gainful employment," is a dummy variable that takes the value of one if a woman aged 16 to 65 reports being gainfully employed and zero otherwise. Each row presents a separate estimation examining one of three female-specific labor regulations. Two-way fixed effects (TWFE) estimators are reported in Panel (A), while average treatment effects from De Chaisemartin and d'Haultfoeuille (2022) are in Panel (B). In columns (1)–(3), the independent variables $Seating\ Laws_{sd}$, $Health\ \&\ safety\ Laws_{sd}$, and $Night\ Work\ Laws_{sd}$ are binary indicators that take the value of one for states with any such laws by the decennial year d and in subsequent decades, and zero otherwise. In columns (4)–(6), these variables represent the total duration (in years) since the passage of a given female-specific labor law, scaled in decades (divided by 10). Individual-level controls (age, race, and ethnicity) are included in columns (2), (3), (5), and (6). Columns (3) and (6) restrict the sample to female employment, excluding domestic work jobs (housekeepers, laundresses, and other private household workers) and midwives. State and decade fixed effects are included in all columns, with standard errors clustered at the state level. Significance levels are indicated as *** p<0.01, ** p<0.05, * p<0.1.

Table 3: Accounting for Pre-Passage State Level Characteristics & Controlling for Other State Level Laws

	Female Gainful Employment							
	Passage				Years since passage			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Seating Laws	0.032***	0.027*	0.005	0.008	0.021***	0.022***	0.009	0.018***
	(0.012)	(0.014)	(0.011)	(0.013)	(0.004)	(0.004)	(0.006)	(0.006)
Observations	176,542,981	167,207,460	181,345,915	171,649,600	176,542,981	167,207,460	181,345,915	171,649,600
Dep. Var. Mean	0.24	0.20	0.24	0.20	0.24	0.20	0.24	0.20
Dep. Var. Std. Dev.	0.43	0.40	0.43	0.40	0.43	0.40	0.43	0.40
Health & safety Laws	0.022*	0.021*	0.010	0.020**	0.016***	0.015***	0.008**	0.012***
	(0.011)	(0.012)	(0.007)	(0.008)	(0.004)	(0.004)	(0.003)	(0.003)
Observations	134,987,290	128,146,293	181,345,915	171,649,600	134,987,290	128,146,293	181,345,915	171,649,600
Dep. Var. Mean	0.24	0.20	0.24	0.20	0.24	0.20	0.24	0.20
Dep. Var. Std. Dev.	0.43	0.40	0.43	0.40	0.43	0.40	0.43	0.40
Night-work Laws	0.024**	0.019	0.019**	0.031***	0.019***	0.019***	0.008**	0.014***
	(0.011)	(0.013)	(0.009)	(0.011)	(0.005)	(0.005)	(0.003)	(0.004)
Observations	99,370,887	94,337,446	181,345,915	171,649,600	99,370,887	94,337,446	181,345,915	171,649,600
Dep. Var. Mean	0.25	0.21	0.25	0.21	0.24	0.20	0.24	0.20
Dep. Var. Std. Dev.	0.43	0.41	0.43	0.41	0.43	0.40	0.43	0.40
Individual Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Decade FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State FE	No	No	Yes	Yes	No	No	Yes	Yes
Restricted Sample	No	Yes	No	Yes	No	Yes	No	Yes
Pre-Passage Characteristics								
Industrialization & Econ Dvlpmt	Yes	Yes	No	No	Yes	Yes	No	No
Political Movements	Yes	Yes	No	No	Yes	Yes	No	No
Labor Unions	Yes	Yes	No	No	Yes	Yes	No	No
Other State Level Laws								
Equal Pay	No	No	Yes	Yes	No	No	Yes	Yes
Maximum Hours	No	No	Yes	Yes	No	No	Yes	Yes
Suffrage	No	No	Yes	Yes	No	No	Yes	Yes

Notes: The unit of observation is an individual (women only). In columns (1), (2), (5), and (6), the sample is limited to treated states that passed female-specific labor regulations, while all states are included in the remaining columns. The dependent variable female gainful employment" is a dummy variable equal to one if a woman aged 16 to 65 reports being gainfully employed and zero otherwise. Each row presents a separate estimation examining one of three female-specific labor regulations. In columns (1)–(4), the independent variables of interest: $Seating\ Laws_{sd}$, $Health$ & $safety\ Laws_{sd}$, and $Night\ Work\ Laws_{sd}$ are binary indicators equal to one for states with any relevant laws by the decennial year d and zero otherwise. In columns (5)–(8), these variables represent the total duration (in years) since the passage of a given female-specific labor law, scaled in decades by dividing by 10. Individual-level controls (age, race, and ethnicity) and decade fixed effects are included throughout. In columns (2), (4), (6), and (8), we restrict the sample to female employment excluding domestic work and midwives. Columns (1), (2), (5), and (6) include controls for 1) state-level industrialization and economic development, comprising: a) a dummy for U.S. states in the South Census Region, b) the lagged size of the manufacturing industry (share of workers in manufacturing), c) the lagged share of women in manufacturing, and d) the lagged share of female clerical workers. Lags are computed based on data from the first census year before the state-law-specific year of passage; 2) political movements, measured by a dummy that takes the value of one if any actions (arrests, conferences, demonstrations, legal actions, legislative involvement, meetings, etc.) related to the *National Woman's Party* (NWP) occurred prior to law passage, and zero otherwise; and 3) labor unions, measured by a dummy indicating the presence of at least one active *Knights of Labor* local union in the state prior to law passage. Data on NWP actions and labor union activities are obtained from the "Mapping American Social Movements" Project. In columns (3), (4), (7), and (8), we control for 1) a binary indicator for the passage of equal pay laws in specific decades; 2) a binary indicator for granting women suffrage rights; and 3) a binary indicator for passing gender-specific "Maximum Hours" laws. Data on the timing of suffrage laws is obtained from Lott and Kenny (1999) and Miller (2008). Standard errors in parentheses are clustered at the state level. Significance levels are indicated as *** p<0.01, ** p<0.05, * p<0.1.

Table 4: Female-Specific Labor Regulations and Female Employment: Triple Differences Specification (Industry-Specific)

	Share Female Gainful Employment					
	Passage			Years since passage		
	(1)	(2)	(3)	(4)	(5)	(6)
Seating Laws	-0.001	-0.002	0.009	0.002*	0.002	0.004**
	(0.003)	(0.004)	(0.006)	(0.001)	(0.001)	(0.002)
Health & safety Laws	0.004	0.004	0.009***	0.003**	0.003	0.004***
	(0.003)	(0.004)	(0.003)	(0.001)	(0.002)	(0.001)
Night-work Laws	0.008**	0.007	0.013****	0.004***	0.004*	0.005***
	(0.004)	(0.005)	(0.005)	(0.002)	(0.002)	(0.002)
Observations	2,322	2,322	2,322	2,322	2,322	2,322
Dep. Var. Mean	0.23	0.23	0.23	0.23	0.23	0.23
Dep. Var. Std. Dev.	0.42	0.42	0.42	0.42	0.42	0.42
States	49	49	49	49	49	49
State FE	Yes	Yes	Yes	Yes	Yes	Yes
Decade FE	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
State-Decade FE	No	Yes	Yes	No	Yes	Yes
Industry-Decade FE	No	No	Yes	No	No	Yes

Notes: The unit of observation is an industry, defined according to U.S. Census classifications. Our analysis includes five affected industries: mercantile, manufacturing (durable and non-durable), personal services, and mining. Industries that were never treated are grouped as "other industries" to serve as a control group. The dependent variable "Share Female Gainful Employment" represents the share of employed females aged 16 to 65 in a specific industry who report gainful occupations. Each row presents a separate estimation examining one of three female-specific labor laws. Triple-differences estimates are reported. In columns (1)–(3), the independent variables of interest: $Seating\ Laws_{sd}$, $Health$ & $safety\ Laws_{sd}$, and $Night\ Work\ Laws_{sd}$ are binary indicators equal to one for states with any relevant laws by the decennial year d and zero otherwise. In columns (4)–(6), these variables represent the total duration (in years) since the passage of a given female-specific labor law, scaled in decades by dividing by 10. State, decade, and industry fixed effects are included in all columns, with State-Decade FEs in columns (2), (3), (5), and (6), and Industry-Decade FEs in columns (3) and (6). Standard errors in parentheses are clustered at the industry-state level. Significance levels are indicated as *** p<0.01, ** p<0.05, * p<0.1.

Table 5: Female-Specific Labor Regulations and Female Employment: Marital Status Heterogeneity

	Female Gainful Employment					
	Single		Married Without children		Married With children	
	(1)	(2)	(3)	(4)	(5)	(6)
	Panel A: Passage					
Seating Laws	0.005	0.001	-0.011	-0.011	-0.010	-0.009
	(0.013)	(0.019)	(0.015)	(0.017)	(0.008)	(0.009)
Health & safety Laws	0.010	0.026	0.016	0.021*	0.007	0.011
	(0.013)	(0.019)	(0.011)	(0.012)	(0.006)	(0.006)
Night-work Laws	0.019	0.026*	0.025*	0.041**	0.012	0.015*
	(0.012)	(0.014)	(0.013)	(0.018)	(0.008)	(0.009)
	Panel B: Years since passage					
Seating Laws	0.018*	0.037**	0.018	0.028**	0.005	0.009
	(0.010)	(0.011)	(0.013)	(0.014)	(0.008)	(0.008)
Health & safety Laws	0.011***	0.026***	0.015**	0.016***	0.005*	0.007**
	(0.005)	(0.006)	(0.005)	(0.006)	(0.003)	(0.003)
Night-work Laws	0.004	0.012	0.012**	0.017***	0.007**	0.010***
	(0.006)	(0.008)	(0.005)	(0.006)	(0.003)	(0.003)
Observations	39,919,031	35,860,233	34,067,000	31,832,544	91,369,677	88,979,875
Dep. Var. Mean	0.57	0.52	0.26	0.21	0.12	0.10
Dep. Var. Std. Dev.	0.50	0.50	0.44	0.40	0.32	0.29
States	49	49	49	49	49	49
Individual Controls	Yes	Yes	Yes	Yes	Yes	Yes
State FE	Yes	Yes	Yes	Yes	Yes	Yes
Decade FE	Yes	Yes	Yes	Yes	Yes	Yes
Restricted Sample	No	Yes	No	Yes	No	Yes

Notes: The unit of observation is an individual (women only). Each row presents a separate estimation examining one of three female-specific labor regulations. The dependent variable "female gainful employment" is a dummy variable equal to one if a woman aged 16–65 reports being gainfully employed and zero otherwise. In columns (1)–(6) of Panel A, the independent variables of interest: $Seating\ Laws_{sd}$, $Health\ \&\ safety\ Laws_{sd}$, and $Night\ Work\ Laws_{sd}$ are binary indicators equal to one for states with any relevant laws by the decennial year d and zero otherwise. In columns (1)–(6) of Panel B, these variables represent the total duration (in years) since the passage of a given female-specific labor law, scaled in decades by dividing by 10. Individual-level controls for age, race, and ethnicity are included throughout. The sample is restricted to single women (in columns (1) and (2)), married women without children in the household (in columns (3) and (4)), and married women with children present (in columns (5) and (6)). State and decade fixed effects are included throughout. In columns (2), (4), and (6), the sample is restricted to female employment excluding domestic workers (housekeepers, laundresses, and other private household workers) and midwives. Standard errors in parentheses are clustered at the state level. Significance levels are indicated as *** p<0.01, ** p<0.05, * p<0.1.

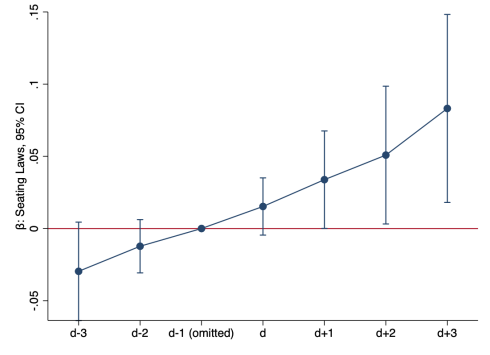
Table 6: Female-Specific Labor Regulations and Female Employment: Social Status Heterogeneity

	Female Gainful Employment					
	Passage			Years since passage		
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: Homeowner						
Homeowner	-0.061***	-0.051***	-0.047***	-0.057***	-0.051***	-0.046***
	(0.010)	(0.006)	(0.004)	(0.006)	(0.004)	(0.004)
Seating Laws	-0.021*			0.019		
	(0.012)			(0.012)		
Health & safety Laws		0.004			0.009**	
		(0.008)			(0.004)	
Night-work Laws			0.011			0.008**
			(0.010)			(0.004)
Seating Laws	0.020*			0.005***		
× Homeowner	(0.011)			(0.002)		
Health & safety Laws		0.012*			0.004**	
× Homeowner		(0.006)			(0.002)	
Night-work Laws			0.010**			0.003**
× Homeowner			(0.005)			(0.001)
Observations	152,453,060	152,453,060	152,453,060	152,453,060	152,453,060	152,453,060
Panel B: Literacy						
Literate	-0.052***	-0.050***	-0.044***	-0.060***	-0.046***	-0.038***
	(0.010)	(0.009)	(0.011)	(0.009)	(0.009)	(0.010)
Seating Laws	-0.060***			-0.029***		
	(0.020)			(0.005)		
Health & safety Laws		-0.083***			-0.029***	
		(0.026)			(0.007)	
Night-work Laws			-0.119***			-0.047***
			(0.013)			(0.003)
Seating Laws	0.064***			0.034***		
× Literacy	(0.020)			(0.005)		
Health & safety Laws		0.095***			0.037***	
× Literacy		(0.028)			(0.007)	
Night-work Laws			0.139***			0.056***
× Literacy			(0.017)			(0.005)
Observations	139,355,036	139,355,036	139,355,036	139,355,036	139,355,036	139,355,036
Dep. Var. Mean	0.26	0.26	0.26	0.26	0.26	0.26
Dep. Var. Std. Dev.	0.44	0.44	0.44	0.44	0.44	0.44
States	49	49	49	49	49	49
Individual Controls	Yes	Yes	Yes	Yes	Yes	Yes
State FE	Yes	Yes	Yes	Yes	Yes	Yes
Decade FE	Yes	Yes	Yes	Yes	Yes	Yes

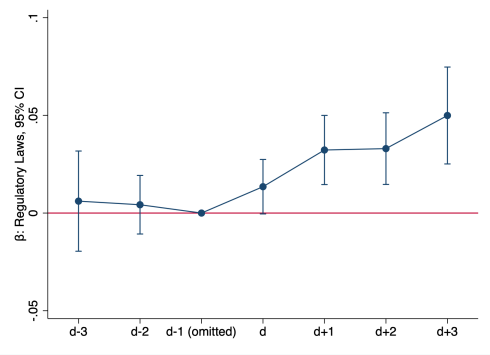
Notes: The unit of observation is an individual (women only). Each row presents a separate estimation examining one of three female-specific labor regulations. The dependent variable "female gainful employment" is a dummy variable equal to one if a woman aged 16–65 reports being gainfully employed and zero otherwise. In columns (1)–(3), the independent variables of interest—$Seating\ Laws_{sd}$, $Health\ \&\ safety\ Laws_{sd}$, and $Night\ Work\ Laws_{sd}$—are binary indicators equal to one for states with relevant laws by the decennial year d and zero otherwise. In columns (4)–(6), these variables represent the total duration (in years) since the passage of a given female-specific labor law, scaled in decades by dividing by 10. $Homeowner$ is a dummy variable equal to one if the household owns its housing unit and zero if rented. $Literate$ is a dummy variable equal to one if a woman can read and write and zero otherwise. Data on homeowners is available for 1900–1940, and data on literacy is available for 1860–1930. Individual-level controls for age, race, and ethnicity are included throughout, as well as state and decade fixed effects. Standard errors in parentheses are clustered at the state level. Significance levels are indicated as *** p<0.01, ** p<0.05, * p<0.1.

Online Appendix:

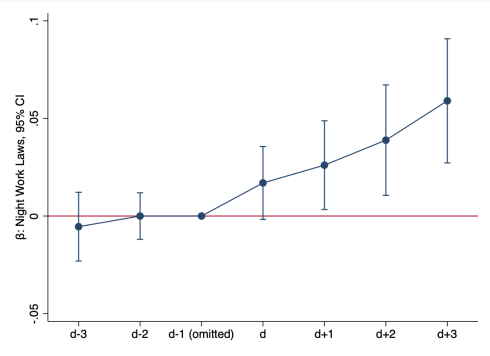
Figure A1: Two-Way Fixed Effects (TWFE) Leads and Lags Estimates



Panel A: Seating laws and Female Gainful Employment



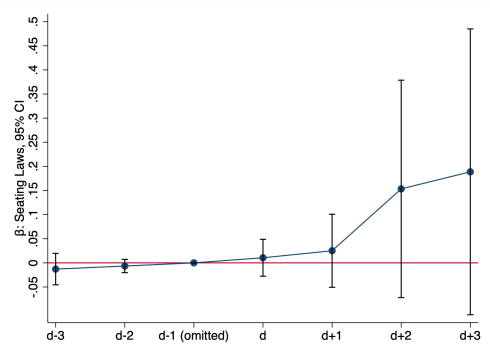
Panel B: Regulatory laws and Female Gainful Employment



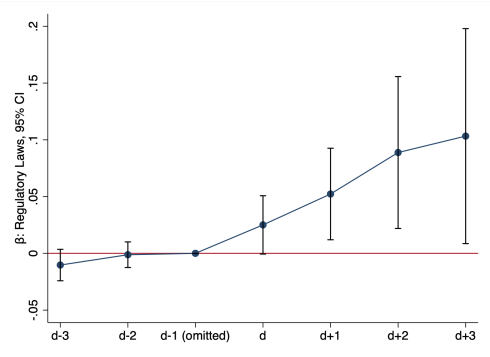
Panel C: Night-work laws and Female Gainful Employment

Notes: This figure displays the estimated lead and lag coefficients on female gainful employment for seating, regulatory, and night-work regulations in Panels (A), (B), and (C), respectively, using a two-way fixed effects difference-in-differences strategy. The decade preceding policy implementation is omitted. All specifications include time-varying individual-level controls (age, race, and ethnicity). Source: Individual-level data is obtained from the complete-count United States Population Censuses from 1860 to 1940, compiled by the Integrated Public Use Microdata Series (Ruggles et al. (2024)). Female gainful employment reflects the share of women aged 16–65 reporting gainful occupations.

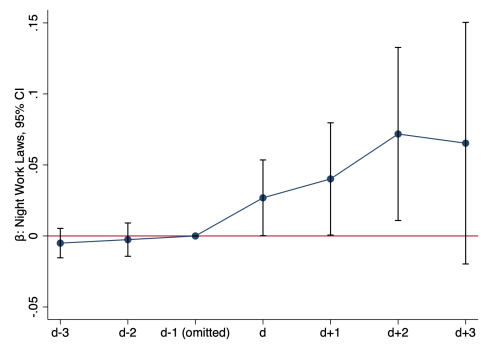
Figure A2: De Chaisemartin and d'Haultfoeuille (2022) Leads and Lags Estimates



Panel A: Seating laws and Female Gainful Employment



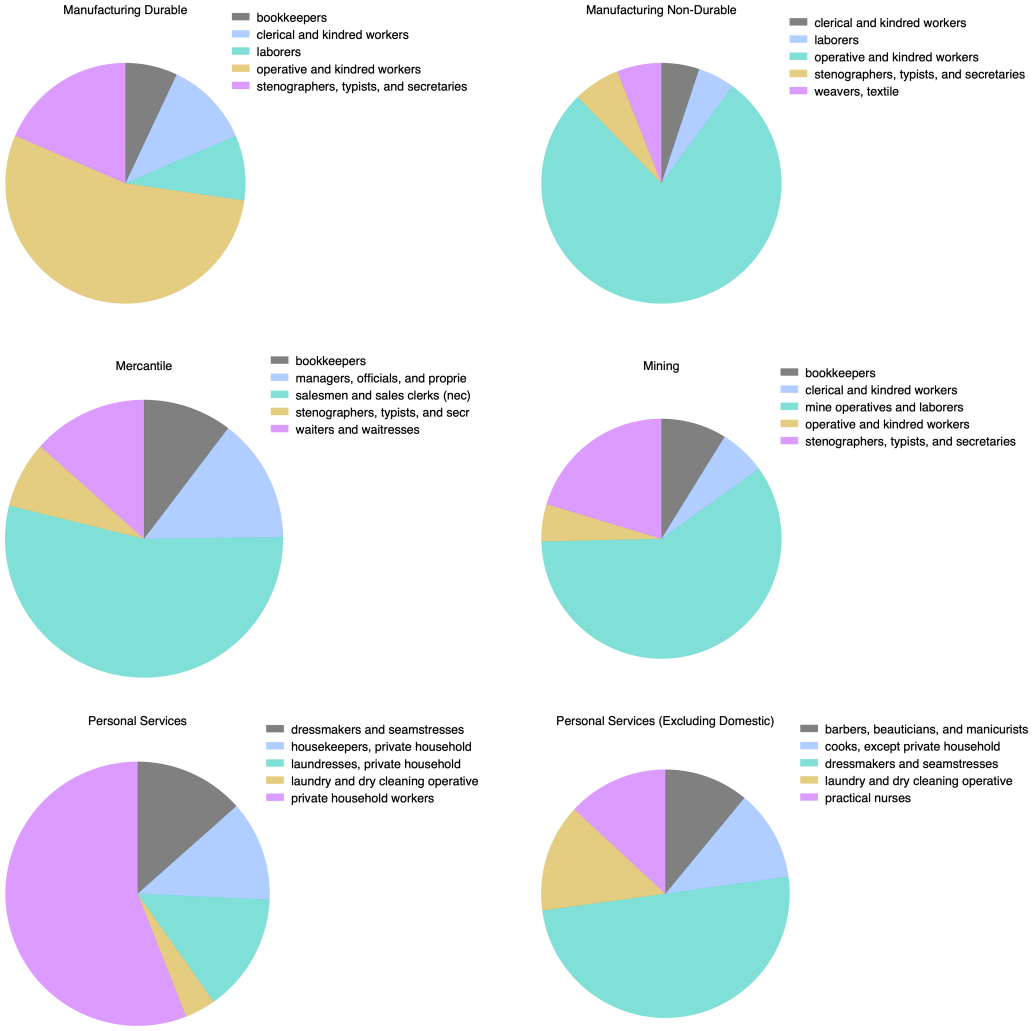
Panel B: Regulatory laws and Female Gainful Employment



Panel C: Night-work laws and Female Gainful Employment

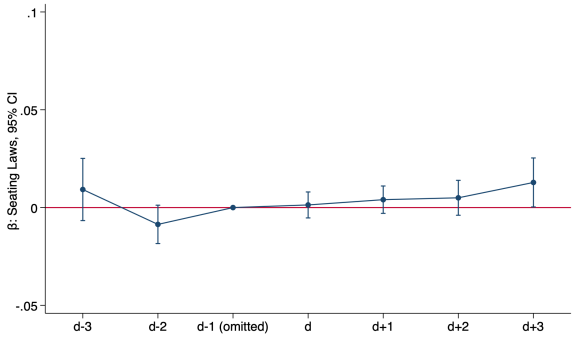
Notes: This figure presents the estimated lead and lag coefficients on female gainful employment for seating, regulatory, and night-work laws in Panels (A), (B), and (C), respectively, using the methodology from De Chaisemartin and d'Haultfoeuille (2022). The decade preceding policy implementation is omitted. All specifications include time-varying individual-level controls (age, race, and ethnicity). Source: Individual-level data is derived from the complete-count United States Population Censuses from 1860 to 1940, compiled by the Integrated Public Use Microdata Series (Ruggles et al. (2024)). Female gainful employment indicates the share of women aged 16–65 reporting gainful occupations.

Figure A3: Main Female Occupations, by Industry (1860–1940)

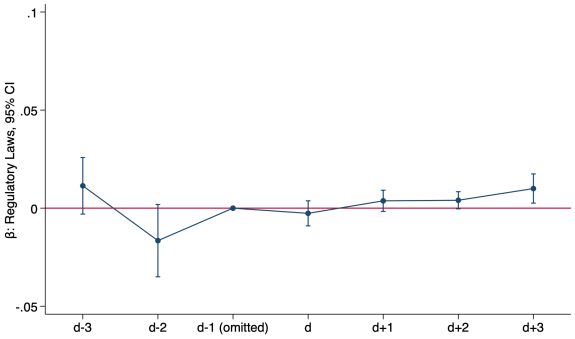


Notes: Pie charts display the employment shares of the top five occupations within each industry, as indicated at the top of each graph. The shares are based on complete-count United States Population Censuses from 1860 to 1940, compiled by the Integrated Public Use Microdata Series (Ruggles et al. (2024)). The analysis focuses on women reporting gainful employment.

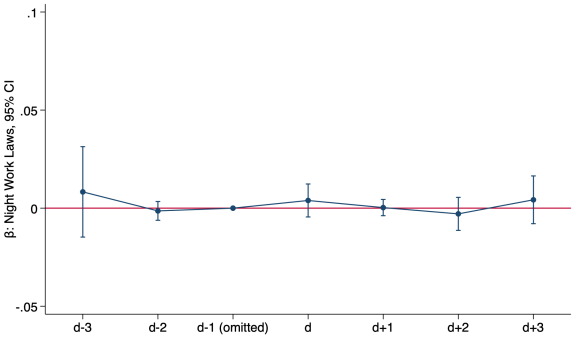
Figure A4: Gender-Based Labor Laws and Male Gainful Employment: Two-Way Fixed Effects (TWFE) Leads and Lags Estimates



Panel A: Seating laws and Male Gainful Employment



Panel B: Regulatory laws and Male Gainful Employment



Panel B: Night-work laws and Male Gainful Employment

Notes: This figure plots the estimated leads and lags coefficients on male gainful employment for seating, regulatory, and night-work regulations using a two-way fixed effects difference-in-differences strategy. The first decade before policy implementation is omitted, and all specifications include time-varying individual-level controls (age, race, and ethnicity). *Source*: Individual-level data is sourced from the complete-count United States Population Censuses from 1860 to 1940, compiled by the Integrated Public Use Microdata Series (Ruggles et al. (2024)). Male gainful employment represents the share of men aged 16–65 reporting gainful occupations.

Table A1: Female-Specific Labor Regulations, Years of Passage, Revisions & Reinforcement by State (1)

State	Seating Laws Passage Year	Seating Laws Reinforcement Years	Health & safety Laws Passage Year	Health & safety Laws Reinforcement Years	Night-work Laws Passage Year	Night-work Laws Reinforcement Years
Alabama	1889	1907	1893			
Arizona	1912	1912	1928			
Arkansas	1913		1893	1905		
California	1889	1903, 1911, 1913, 1916, 1917, 1918, 1919, 1928-1929, 1929, 1931	1917	1919, 1920, 1921, 1928, 1929, 1931	1918	1919, 1919, 1919, 1919-1920, 1919 ,1920, 1922 , 1923
Colorado	1885		1885	1913		
Connecticut	1893	1902	1913		1909	1913, 1917, 1917, 1919, 1921, 1925, 1925
Delaware	1887	1897, 1915, 1917			1913	1917
District of Columbia	1895					
Florida						
Georgia	1890					
Idaho	1913					
Illinois	1901	1909	1872	1879, 1899, 1921		
Indiana	1891	1893, 1899	1905		1899	
Iowa	1892	1924				
Kansas	1901	1916, 1922, 1919, 1920, 1922, 1927, 1929	1915		1917	1918, 1918, 1919, 1920, 1921, 1922, 1922, 1922, 1922, 1927, 1927, 1927
Kentucky	1912					
Louisiana	1886	1900, 1908, 1914, 1918	1908			
Maine	1911					
Maryland	1896	1898	1902	1922	1912	
Massachusetts	1882	1912	1912	1912, 1913, 1913, 1914, 1917	1890	1907, 1913, 1917
Michigan	1885	1893, 1909	1905	1909, 1919, 1923, 1929		
Minnesota	1887	1889, 1905, 1919	1913	1920		
Mississippi						
Missouri	1885	1891	1881	1891, 1909, 1919	1909	
Montana	1913					
Nebraska	1883	1899, 1913, 1919			1899	1913, 1915, 1931
Nevada	1917	1923				
New Hampshire	1895				1914	1915, 1917

Notes: Revisions and reinforcements to female-specific labor legislation include: 1) increased fines for violations; 2) expanded regulations to cover additional industries and/or occupations; 3) revised requirements (e.g., California's seating laws, first passed in 1889, were updated in 1903 to mandate one seat for every three women employed in manufacturing, mechanical, and mercantile occupations); 4) more severe penalties, including increased fines or imprisonment based on the offense. Source: Authors' compilation based on Smith (1932).

Table A2: Female-Specific Labor Regulations, Years of Passage, Revisions & Reinforcement by State (Ctd)

State	Seating Laws Passage Year	Seating Laws Reinforcement Years	Health & safety Laws Passage Year	Health & safety Laws Reinforcement Years	Night-work Laws Passage Year	Night-work Laws Reinforcement Years
New Jersey	1882	1884, 1898, 1909	1885	1887, 1917	1892	1924
New Mexico	1931				1921	
New York	1881	1896, 1897, 1900, 1909, 1911, 1913, 1919, 1921	1887	1892, 1893, 1896, 1896, 1897 ,1897, 1899, 1903, 1906, 1907, 1908, 1909 ,1911, 1912, 1913, 1915, 1918, 1919, 1920, 1921 ,1921 ,1922 ,1924	1889	1892, 1893, 1896, 1896, 1897, 1897, 1899, 1901, 1907, 1911, 1913, 1913,1914, 1915, 1917, 1918, 1919, 1919, 1919, 1920, 1921, 1921, 1928
North Carolina	1909					
North Dakota	1920	1922			1920	1920, 1922, 1922, 1922, 1922
Ohio	1885	1889, 1898, 1911	1909	1911 ,1917, 1919, 1931	1919	
Oklahoma	1908	1910, 1915	1907	1909, 1929		
Oregon	1903	1907, 1916, 1922	1919		1913	1914, 1916, 1916, 1916, 1919
Pennsylvania	1887	1897, 1905, 1913, 1915, 1918, 1929	1885	1891, 1893 ,1903 ,1911, 1915 ,1917, 1917, 1918, 1925, 1926 ,1929	1913	1918, 1926, 1927, 1929
Rhode Island	1894					
South Carolina	1899				1911	1914
South Dakota	1913					
Tennessee	1905	1913				
Texas	1913	1915, 1929				
Utah	1897	1896				
Vermont	1915	1912	1917			
Virginia	1898	1910, 1922	1912			
Washington	1890	1901, 1911, 1918, 1921, 1922	1891	1913, 1917, 1918, 1920-1921, 1921, 1922	1920-1921	
West Virginia	1901	1919	1887	1890, 1901, 1907, 1915, 1925		
Wisconsin	1899	1911	1913	1915, 1921	1911	1913, 1917, 1917, 1917, 1918, 1918, 1923, 1923, 1923, 1923, 1924, 1925
Wyoming	1901	1923	1890			

Notes: See Footnote of Appendix Table A1.

Table A3: Female-Specific Labor Regulations: Marital and Fertility Outcomes

	Married		Divorced		Nb. of Children		Age 1st Time Mother	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Panel A: Passage							
Seating Laws	-0.005	-0.003	0.001	0.001	-0.082*	-0.084*	-0.006	-0.009
	(0.004)	(0.005)	(0.001)	(0.001)	(0.048)	(0.047)	(0.039)	(0.041)
Health & safety Laws	0.005	0.002	0.002	0.002	-0.000	-0.017	0.004	0.006
	(0.005)	(0.005)	(0.002)	(0.002)	(0.043)	(0.045)	(0.040)	(0.040)
Night-work Laws	0.002	-0.000	0.001	0.001	0.033	0.018	-0.047	-0.058
	(0.005)	(0.005)	(0.002)	(0.002)	(0.050)	(0.051)	(0.050)	(0.050)
	Panel B: Years since passage							
Seating Laws	0.000	-0.003	-0.000	0.000	0.030	0.018	-0.036*	-0.044**
	(0.003)	(0.003)	(0.001)	(0.001)	(0.030)	(0.031)	(0.019)	(0.019)
Health & safety Laws	-0.000	-0.003	-0.000	-0.000	0.005	-0.003	-0.031	-0.037*
	(0.002)	(0.002)	(0.001)	(0.000)	(0.024)	(0.024)	(0.020)	(0.020)
Night-work Laws	-0.001	-0.003*	-0.001	-0.001	0.047***	0.041**	-0.020	-0.025
	(0.001)	(0.002)	(0.001)	(0.000)	(0.017)	(0.018)	(0.016)	(0.016)
Observations	165,355,708	156,672,652	112,529,618	109,503,022	181,345,915	171,649,600	98,922,509	96,287,871
Dep. Var. Mean	0.76	0.77	0.02	0.01	1.52	1.57	24.48	24.49
Dep. Var. Std. Dev.	0.43	0.42	0.12	0.12	1.91	1.92	5.64	5.62
States	49	49	49	49	49	49	49	49
Individual Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Decade FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Restricted Sample	No	Yes	No	Yes	No	Yes	No	Yes

Notes: The unit of observation is individual women aged 16 to 65. Each row presents a separate estimation examining one of three female-specific labor legislations. The dependent variables are as follows: in columns (1) and (2), an indicator equals one if a woman is married; in columns (3) and (4), an indicator equals one if a woman is divorced; in columns (5) and (6), the count of her own children (of any marital status) residing in the same household; in columns (7) and (8), a woman's age as a first-time mother, calculated by subtracting the age of the eldest child from the mother's age. In columns (1)–(8) of Panel A, the independent variables of interest—$Seating\ Laws_{sd}$, $Health\ \&\ safety\ Laws_{sd}$, and $Night\ Work\ Laws_{sd}$—are binary indicators for states with any relevant laws by the decennial year d and in subsequent decades. In columns (1)–(8) of Panel B, these independent variables represent the total duration (in years) since the passage of a female-specific labor law, scaled in decades by dividing by 10. Columns (2), (4), (6), and (8) restrict the sample to female employment, excluding domestic work (housekeepers, laundresses, and other private household workers) and midwives. Individual-level controls (age, race, and ethnicity) and state and decade fixed effects are included in all columns. Standard errors in parentheses are clustered at the state level. Significance levels are denoted as *** p<0.01, ** p<0.05, * p<0.1.

Table A4: Female-specific Labor Regulations and Female Employment: Revisions & Reinforcements

	Female Gainful Employment					
	(1)	(2)	(3)	(4)	(5)	(6)
Seating Laws: Reinforcements	0.004**	0.007***				
	(0.002)	(0.002)				
Health & safety Laws: Reinforcements			0.004***	0.007***		
			(0.001)	(0.002)		
Night-work Laws: Reinforcements					0.002**	0.005***
					(0.001)	(0.001)
Observations	181,345,915	171,649,600	181,345,915	171,649,600	181,345,915	171,649,600
Dep. Var. Mean	0.24	0.20	0.24	0.20	0.24	0.20
Dep. Var. Std. Dev.	0.43	0.40	0.43	0.40	0.43	0.40
Individual Controls	No	Yes	No	Yes	No	Yes
State FE	Yes	Yes	Yes	Yes	Yes	Yes
Decade FE	Yes	Yes	Yes	Yes	Yes	Yes
Restricted Sample	No	Yes	No	Yes	No	Yes

Notes: The unit of observation is individual women aged 16 to 65. The dependent variable, "female gainful employment," is a dummy variable that equals one if a woman reports being gainfully employed and zero otherwise. Each row presents a separate estimation examining one of three female-specific labor regulations, with two-way fixed effects (TWFE) estimators reported throughout. The independent variables of interest—$Seating\ Laws_{sd}$: $Reinforcements$, $Health\ \&\ safety\ Laws_{sd}$: $Reinforcements$, and $Night\ Work\ Laws_{sd}$: $Reinforcements$—represent the continuous variables that capture the number of reinforcements enacted by treated states for seating, health & safety, and night-work laws as of decennial year d. Details about these revisions and reinforcements by state and year are provided in Appendix Tables A1 and A2. In columns (2), (4), and (6), the sample is restricted to female employment, excluding domestic work (housekeepers, laundresses, and other private household workers) and midwives. Individual-level controls (age, race, and ethnicity) are included in these columns. State and decade fixed effects are included in all columns. Standard errors in parentheses are clustered at the state level. Significance levels are indicated as *** p<0.01, ** p<0.05, * p<0.1.

Table A5: Predicting Year of Passage of Female-Specific Labor Regulations

	Year of Passage		
	Seating	**Health & safety**	**Night-work**
	(1)	(2)	(3)
Industrialization & Economic Development			
South Census Region dummy	3.195	3.078	8.678**
	(3.336)	(5.346)	(3.978)
Lagged share manufacturing	-39.74*	2.709	-1.871
	(23.647)	(23.831)	(20.204)
Lagged share manufacturing: women	48.02**	72.09**	-4.868
	(20.167)	(32.840)	(27.316)
Lagged share clerical: women	111.3	-21.21	278.7***
	(82.959)	(100.889)	(84.385)
Political Movements			
National Woman's Party Actions	17.96***	20.99***	11.31**
	(5.312)	(3.502)	(4.202)
Labor Unions (Assemblies)			
Knights of Labor: Local Unions	-3.909	9.335	0
	(7.718)	(6.936)	(.)
Observations	47	28	20

Notes: The dependent variable in columns (1)–(3) is the year a U.S. state passed seating, health & safety, and night-work laws, respectively, limited to treated states that enacted female-specific labor regulations. All columns account for pre-passage state-level industrialization and economic characteristics, including: 1) a dummy for states in the South Census Region; 2) lagged size of the manufacturing industry (share of workers in manufacturing); 3) lagged share of manufacturing workers who are women; and 4) lagged share of female clerical workers. Lags are based on the first census year prior to the law's passage. Controls for political movements include a dummy indicating whether any actions related to the National Woman's Party (NWP) occurred before law passage, while labor unions controls indicate if at least one Knights of Labor active local union existed prior. Data on NWP actions and labor unions are sourced from the "Mapping American Social Movements" Project. Standard errors are in parentheses, clustered at the state level. Significance levels are *** $p<0.01$, ** $p<0.05$, * $p<0.1$.

Table A6: Female-Specific Labor Regulations and Female Employment: Complementarity Check & Restricting To Early Adopters

	Female Gainful Employment							
	Complementarity Check				Early Adopters			
	Passage		Years since passage		Passage		Years since passage	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Seating Laws	0.000	-0.001	0.010	0.020***	0.007	0.012	0.006	0.012***
	(0.009)	(0.012)	(0.006)	(0.006)	(0.009)	(0.008)	(0.004)	(0.004)
Health & safety Laws Passage	Yes	Yes	Yes	Yes	NA	NA	NA	NA
Night-work Laws Passage	Yes	Yes	Yes	Yes	NA	NA	NA	NA
Health & safety Laws	0.011	0.021**	0.009***	0.016***	0.002	0.008	0.006	0.007**
	(0.007)	(0.009)	(0.003)	(0.004)	(0.005)	(0.006)	(0.004)	(0.003)
Seating Laws Passage	Yes	Yes	Yes	Yes	NA	NA	NA	NA
Night-work Laws Passage	Yes	Yes	Yes	Yes	NA	NA	NA	NA
Night-work Laws	0.018*	0.028**	0.008**	0.014***	0.011*	0.021***	0.012*	0.025***
	(0.009)	(0.011)	(0.003)	(0.004)	(0.006)	(0.006)	(0.007)	(0.004)
Seating Laws Passage	Yes	Yes	Yes	Yes	NA	NA	NA	NA
Health & safety Laws Passage	Yes	Yes	Yes	Yes	NA	NA	NA	NA
Observations	181,345,915	171,649,600	181,345,915	171,649,600	49,266,479	46,295,554	49,266,479	46,295,554
Dep. Var. Mean	0.24	0.20	0.24	0.20	0.18	0.12	0.18	0.12
Dep. Var. Std. Dev.	0.43	0.40	0.43	0.40	0.38	0.33	0.38	0.33
States	49	49	49	49	49	49	49	49
Individual Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Decade FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Restricted Sample	No	Yes	No	Yes	No	Yes	No	Yes

Notes: The unit of observation is an individual (women only). The dependent variable "female gainful employment" is a dummy variable that takes the value of one if a woman aged between 16 and 65 reports being gainfully employed, and zero otherwise. Each row presents a separate estimation for one of three female-specific labor regulations. In columns (1), (2), (5), and (6), the independent variables of interest—$Seating\ Laws_{sd}$, $Health\ \&\ safety\ Laws_{sd}$, and $Night\ Work\ Laws_{sd}$—are binary indicators for states with such laws by decennial year d and in subsequent decades. In columns (3), (4), (7), and (8), these variables represent the total duration (in years) since the passage of the respective law, scaled by dividing by 10. In columns (1)–(4) of the complementarity check analysis, we incorporate binary indicators for $Seating\ Laws\ Passage$, $Health\&safety\ Laws\ Passage$, and $Night\ Work\ Laws\ Passage$. These indicators take the value of 1 if a particular U.S. state has enacted other female-specific labor legislation in a specific decade prior to the enactment of the law under examination. Columns (5)–(8) focus on early adopters, limiting the sample to the period from 1860 to 1900. In columns (2), (4), (6), and (8), we exclude domestic workers and midwives from the sample. Individual-level controls (age, race, and ethnicity) and state and decade fixed effects are included in all columns. Standard errors are in parentheses, clustered at the state level. Significance levels are *** p<0.01, ** p<0.05, * p<0.1.

Table A7: Female-Specific Labor Laws and Female Employment: Accounting For Contemporaneous Immigration & Economic Development

	Female Gainful Employment					
	Panel A: Passage					
	(1)	(2)	(3)	(4)	(5)	(6)
Seating Laws	0.001	-0.000	-0.001	-0.001	0.001	0.001
	(0.009)	(0.012)	(0.009)	(0.012)	(0.009)	(0.011)
Health & safety Laws	0.011	0.021**	0.010	0.022**	0.010	0.019**
	(0.007)	(0.009)	(0.007)	(0.009)	(0.006)	(0.008)
Night-work Laws	0.020**	0.031***	0.018**	0.029***	0.019**	0.030***
	(0.009)	(0.011)	(0.008)	(0.011)	(0.008)	(0.010)
	Panel B: Years since passage					
	(1)	(2)	(3)	(4)	(5)	(6)
Seating Laws	0.011*	0.020***	0.010	0.020***	0.010	0.018***
	(0.006)	(0.006)	(0.006)	(0.007)	(0.006)	(0.006)
Health & safety Laws	0.008***	0.013***	0.008***	0.013***	0.007**	0.012***
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
Night-work Laws	0.009**	0.015***	0.009***	0.015***	0.007**	0.013***
	(0.003)	(0.004)	(0.003)	(0.004)	(0.003)	(0.004)
Observations	181,345,915	171,649,600	181,345,915	171,649,600	181,345,915	171,649,600
Dep. Var. Mean	0.24	0.20	0.24	0.20	0.24	0.20
Dep. Var. Std. Dev.	0.43	0.40	0.43	0.40	0.43	0.40
States	49	49	49	49	49	49
Individual Controls	Yes	Yes	Yes	Yes	Yes	Yes
State FE	Yes	Yes	Yes	Yes	Yes	Yes
Decade FE	Yes	Yes	Yes	Yes	Yes	Yes
Restricted Sample	No	Yes	No	Yes	No	Yes
State Level Controls:						
Male Gainful Employment	Yes	Yes	No	No	No	No
Average Occupational Score	No	No	Yes	Yes	No	No
Share Foreign-Born Women	No	No	No	No	Yes	Yes

Notes: The unit of observation is an individual (women only). The dependent variable, "female gainful employment," is a dummy variable equal to one if a woman aged 16-65 reports being gainfully employed and zero otherwise. Each row presents a separate estimation for one of three female-specific labor laws. In columns (1)–(6) of Panel A, the independent variables of interest—$Seating\ Laws_{sd}$, $Health\ \&\ Safety\ Laws_{sd}$, and $Night\ Work\ Laws_{sd}$—are binary indicators for states that had such laws by the decennial year d and in subsequent decades. In columns (1)–(6) of Panel B, these variables represent the total duration (in years) since the passage of the respective law, scaled by dividing by 10. Individual-level controls (age, race, and ethnicity), as well as state and decade fixed effects, are included in all columns. To account for economic development and occupational distribution, columns (1) and (4) include state-level average male gainful employment levels, while columns (2) and (5) include state-level average occupational scores. To control for immigration, columns (3) and (6) account for state-level shares of the foreign-born female population. In columns (2), (4), and (6), the sample is restricted to female employment excluding domestic workers and midwives. Standard errors are in parentheses and clustered at the state level. Significance levels are *** p<0.01, ** p<0.05, * p<0.1.

Table A8: Female-Specific Labor Regulations and Female Employment: Instrumental Variables (IV) Strategy

	Female Gainful Employment			
	Passage			
	OLS	**IV**	**OLS**	**IV**
	(1)	(2)	(3)	(4)
Seating Laws	0.001	0.049**	-0.001	0.075***
	(0.009)	(0.019)	(0.012)	(0.014)
Observations	181,345,915	181,345,915	171,649,600	171,649,600
Dep. Var. Mean	0.24	0.24	0.20	0.20
Dep. Var. Std. Dev.	0.42	0.42	0.40	0.40
First-Stage F Statistic	NA	2457.22	NA	2365.71
Health & safety Laws	0.011*	0.009	0.022**	0.026*
	(0.007)	(0.012)	(0.008)	(0.016)
Observations	181,345,915	181,345,915	171,649,600	171,649,600
Dep. Var. Mean	0.24	0.24	0.20	0.20
Dep. Var. Std. Dev.	0.42	0.42	0.40	0.40
First-Stage F Statistic	NA	103.19	NA	102.20
Night-work Laws	0.018**	0.020	0.029**	0.035*
	(0.009)	(0.014)	(0.011)	(0.018)
Observations	181,345,915	181,345,915	171,649,600	171,649,600
Dep. Var. Mean	0.24	0.24	0.20	0.20
Dep. Var. Std. Dev.	0.42	0.42	0.40	0.40
First-Stage F Statistic	NA	150.09	NA	151.31
Individual Controls	Yes	Yes	Yes	Yes
State FE	Yes	Yes	Yes	Yes
Decade FE	Yes	Yes	Yes	Yes
Restricted Sample	No	No	Yes	Yes

Notes: The unit of observation is an individual (women only). The dependent variable, "female gainful employment," is a dummy variable equal to one if a woman aged 16-65 reports being gainfully employed and zero otherwise. Each row presents a separate estimation for one of three female-specific labor laws. Columns (1) and (3) report our main two-way fixed effects (TWFE) estimates, while columns (2) and (4) present our instrumental variables (IV) estimates. The IV strategy employs regional waves of female-specific labor laws as instruments, following Acemoglu et al. (2019). It exploits the diffusion of female-specific labor laws across states in the same region, using the earliest year of passage of a given law as the instrument for all states within that region. In columns (1)–(4), the independent variables of interest—$Seating\ Laws_{sd}$, $Health\ \&\ safety\ Laws_{sd}$, and $Night\ Work\ Laws_{sd}$—are binary indicators equal to one for treated states that had any relevant laws, provided the decennial year d exceeds the earliest passage year in the region; otherwise, they are zero. Individual-level controls (age, race, and ethnicity) are included throughout. In columns (3) and (4), the sample is restricted to female employment excluding domestic workers and midwives. State and decade fixed effects are included in all columns. Standard errors are in parentheses and clustered at the state level. Significance levels are *** p<0.01, ** p<0.05, * p<0.1.

Table A9: Female-Specific Labor Regulations and Female Employment: Adding U.S. Census Region Fixed Effects

	Female Gainful Employment					
	Passage			Years since passage		
	(1)	(2)	(3)	(4)	(5)	(6)
Seating Laws	-0.005	0.003	-0.001	0.013**	0.011***	0.013***
	(0.017)	(0.009)	(0.013)	(0.005)	(0.004)	(0.004)
Health & safety Laws	0.003	0.003	0.008	0.004	0.003	0.005**
	(0.013)	(0.008)	(0.009)	(0.003)	(0.003)	(0.003)
Night-work Laws	0.019	0.017	0.023*	0.012***	0.011**	0.014***
	(0.012)	(0.011)	(0.012)	(0.004)	(0.004)	(0.004)
Observations	181,345,915	181,345,915	171,649,600	181,345,915	181,345,915	171,649,600
Dep. Var. Mean	0.24	0.24	0.20	0.24	0.24	0.20
Dep. Var. Std. Dev.	0.43	0.43	0.40	0.43	0.43	0.40
States	49	49	49	49	49	49
Individual Controls	No	Yes	Yes	No	Yes	Yes
Region FE	Yes	Yes	Yes	Yes	Yes	Yes
Decade FE	Yes	Yes	Yes	Yes	Yes	Yes
Restricted Sample	No	No	Yes	No	No	Yes

Notes: The unit of observation is an individual (women only). The dependent variable, "female gainful employment," is a dummy variable equal to one if a woman aged 16-65 reports being gainfully employed and zero otherwise. Each row presents a separate estimation for one of three female-specific labor laws. In columns (1)–(3), the independent variables of interest—$Seating\ Laws_{sd}$, $Health\ \&\ safety\ Laws_{sd}$, and $Night\ Work\ Laws_{sd}$—are binary indicators that take the value of one for states with any relevant laws by the decennial year d and in subsequent decades, and zero otherwise. In columns (4)–(6), these independent variables represent the total duration (in years) since the passage of a given labor law by the time the decennial year d arrives (scaled by dividing by 10). Individual-level controls (age, race, and ethnicity) are included in columns (2), (3), (5), and (6). In columns (3) and (6), the sample is restricted to female employment excluding domestic workers and midwives. U.S. Census region and decade fixed effects are included in all columns, with the "region" variable from IPUMS identifying the location (region and division) of housing units. Standard errors are in parentheses and clustered at the state level. Significance levels are *** p<0.01, ** p<0.05, * p<0.1.

Table A10: Female-Specific Labor Regulations and Female Employment: Alternative Inferences

	Female Gainful Employment					
	Passage			Years since passage		
	Panel A: Robust Standard Errors					
	(1)	(2)	(3)	(4)	(5)	(6)
Seating Laws	-0.003***	0.001***	-0.001***	0.012***	0.010***	0.020***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Health & safety Laws	0.011***	0.011***	0.022***	0.010***	0.008***	0.013***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Night-work Laws	0.020***	0.018***	0.029***	0.010***	0.008***	0.014***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
	Panel B: Bootstrapped Standard Errors					
Seating Laws	-0.003	0.001	-0.001	0.012**	0.010	0.020***
	(0.009)	(0.009)	(0.012)	(0.006)	(0.006)	(0.006)
	[0.83]	[0.99]	[0.97]	[0.07]	[0.20]	[0.01]
Health & safety Laws	0.011	0.011*	0.022**	0.010***	0.008***	0.013***
	(0.007)	(0.007)	(0.008)	(0.003)	(0.003)	(0.003)
	[0.10]	[0.08]	[0.03]	[0.00]	[0.03]	[0.00]
Night-work Laws	0.020**	0.018**	0.029***	0.010**	0.008**	0.014***
	(0.009)	(0.009)	(0.011)	(0.004)	(0.003)	(0.004)
	[0.06]	[0.05]	[0.01]	[0.03]	[0.04]	[0.01]
Observations	181,345,915	181,345,915	171,649,600	181,345,915	181,345,915	171,649,600
Dep. Var. Mean	0.24	0.24	0.20	0.24	0.24	0.20
Dep. Var. Std. Dev.	0.43	0.43	0.40	0.43	0.43	0.40
States	49	49	49	49	49	49
Individual Controls	No	Yes	Yes	No	Yes	Yes
State FE	Yes	Yes	Yes	Yes	Yes	Yes
Decade FE	Yes	Yes	Yes	Yes	Yes	Yes
Restricted Sample	No	No	Yes	No	No	Yes

Notes: The unit of observation is an individual (women only). The dependent variable, "female gainful employment," is a dummy variable equal to one if a woman aged 16-65 reports being gainfully employed and zero otherwise. Each row presents a separate estimation for one of three female-specific labor laws. In columns (1)–(3), the independent variables of interest—$Seating\ Laws_{sd}$, $Health\ \&\ safety\ Laws_{sd}$, and $Night\ Work\ Laws_{sd}$—are binary indicators that equal one for states with any relevant laws by the decennial year d and in subsequent decades, and zero otherwise. In columns (4)–(6), these variables represent the total duration (in years) since the passage of a given labor law by the decennial year d (scaled by dividing by 10). Individual-level controls (age, race, and ethnicity) are included in columns (2), (3), (5), and (6). In columns (3) and (6), the sample is restricted to female employment excluding domestic workers and midwives. State and decade fixed effects are included in all columns. Robust standard errors are reported in parentheses in columns (1) and (2), while wild cluster bootstrap p-values are reported in square brackets for columns (1)–(6) of Panel B, clustered by state, as per the cluster-robust variance estimator (CRVE) MacKinnon and Webb (2017). Significance levels *** p<0.01, ** p<0.05, * p<0.1.

Table A11: Female-Specific Labor Regulations and Share of Female Gainful Employment

	Share Female Gainful Employment			
	Passage		Years since passage	
	(1)	(2)	(3)	(4)
Seating Laws	0.007	0.012*	0.009**	0.015***
	(0.005)	(0.007)	(0.003)	(0.004)
Health & safety Laws	0.005	0.015*	0.003	0.006*
	(0.007)	(0.009)	(0.003)	(0.004)
Night-work Laws	0.023**	0.029**	0.011***	0.015***
	(0.009)	(0.011)	(0.003)	(0.004)
Observations	387	387	387	387
Dep. Var. Mean	0.21	0.15	0.21	0.15
Dep. Var. Std. Dev.	0.09	0.08	0.09	0.08
States	49	49	49	49
State FE	Yes	Yes	Yes	Yes
Decade FE	Yes	Yes	Yes	Yes
Restricted Sample	No	Yes	No	Yes

Notes: The unit of observation is a state-year. The dependent variable, "Share Female Gainful Employment," represents the share of employed females aged 16 to 65 who report gainful occupations. Each row presents a separate estimation for one of three female-specific labor laws. In columns (1) and (2), the independent variables of interest—$Seating\ Laws_{sd}$, $HealthSafety\ Laws_{sd}$, and $Night\ Work\ Laws_{sd}$—are binary indicators equal to one for states with any relevant laws by the decennial year d and in subsequent decades, and zero otherwise. In columns (3) and (4), these variables represent the total duration (in years) since the passage of a given labor law by the decennial year d (scaled by dividing by 10). Columns (2) and (4) restrict the sample to female employment, excluding domestic workers and midwives. State and decade fixed effects are included in all columns. Standard errors are reported in parentheses and clustered at the state level. Significance levels are *** p<0.01, ** p<0.05, * p<0.1.

Table A12: Female-Specific Labor Regulations and Share of Female Employment in Targeted Industries

	Share of Female Gainful Employment				
	Mercantile	**Manufacturing Durable Gds**	**Manufacturing Non-durable Gds**	**Personal Services**	**Mining**
	(1)	(2)	(3)	(4)	(5)
	Panel A: Passage				
Seating Laws	0.000	0.001	0.001	-0.005	
	(0.002)	(0.001)	(0.003)	(0.005)	
Health & safety Laws		0.007**	0.003		0.000
		(0.003)	(0.004)		(0.000)
Night-work Laws	-0.000	0.006**	0.011***	-0.009*	
	(0.002)	(0.003)	(0.004)	(0.005)	
	Panel B: Years since passage				
Seating Laws	0.001	0.003***	0.003**	-0.002	
	(0.001)	(0.001)	(0.002)	(0.002)	
Health & safety Laws		0.002**	0.002		0.000
		(0.001)	(0.002)		(0.000)
Night-work Laws	-0.000	0.003***	0.004**	-0.004	
	(0.001)	(0.001)	(0.001)	(0.003)	
Observations	387	387	387	387	387
Dep. Var. Mean	0.02	0.01	0.02	0.07	0.000
Dep. Var. Std. Dev.	0.02	0.01	0.03	0.03	0.002
States	49	49	49	49	49
State FE	Yes	Yes	Yes	Yes	Yes
Decade FE	Yes	Yes	Yes	Yes	Yes

Notes: The unit of observation is a state-year. The dependent variable, "Share Female Gainful Employment," represents the share of employed females aged 16 to 65 who report gainful occupations. Each row presents a separate estimation for one of three female-specific labor regulations, with columns indicating estimates for different industries. In columns (1)–(5) of Panel A, the independent variables of interest—$Seating\ Laws_{sd}$, $Health\ \&\ Safety\ Laws_{sd}$, and $Night\ Work\ Laws_{sd}$—are binary indicators equal to one for states with relevant laws targeting the specific industry by the decennial year d and in subsequent decades, and zero otherwise. In columns (1)–(5) of Panel B, these variables represent the total duration (in years) since the passage of industry-specific female labor legislation by the decennial year d (scaled by dividing by 10). Missing estimates indicate that the labor law did not target the industry of interest. State and decade fixed effects are included in all columns. Standard errors are reported in parentheses and clustered at the state level. Significance levels are *** p<0.01, ** p<0.05, * p<0.1.

Table A13: Female-Specific Labor Regulations and Male Employment: Passage & Years since passage

	Male Gainful Employment					
	Passage			Years since passage		
	(1)	(2)	(3)	(4)	(5)	(6)
Seating Laws	-0.001	-0.001	0.012	-0.002	-0.001	0.002
	(0.002)	(0.002)	(0.016)	(0.001)	(0.001)	(0.008)
Health & safety Laws	0.001	0.001	0.016	0.001	0.000	-0.005
	(0.002)	(0.002)	(0.011)	(0.001)	(0.001)	(0.004)
Night-work Laws	-0.003	-0.003	-0.006	-0.001	-0.001	-0.004
	(0.002)	(0.002)	(0.009)	(0.001)	(0.001)	(0.007)
Observations	179,370,651	179,370,651	18,004,714	179,370,651	179,370,651	18,004,714
Dep. Var. Mean	0.92	0.92	0.16	0.92	0.92	0.16
Dep. Var. Std. Dev.	0.28	0.28	0.36	0.28	0.28	0.36
States	49	49	49	49	49	49
Individual Controls	No	Yes	Yes	No	Yes	Yes
State FE	Yes	Yes	Yes	Yes	Yes	Yes
Decade FE	Yes	Yes	Yes	Yes	Yes	Yes
Restricted Sample	No	No	Yes	No	No	Yes

Notes: The unit of observation is an individual (men only). The dependent variable, "male gainful employment," is a dummy variable that equals one if a man aged 16 to 65 reports being gainfully employed, and zero otherwise. Each row presents a separate estimation for one of three female-specific labor laws. In columns (1)–(3), the independent variables—$Seating\ Laws_{sd}$, $Health$ & $Safety\ Laws_{sd}$, and $Night\ Work\ Laws_{sd}$—are binary indicators equal to one for states with relevant laws by the decennial year d and in subsequent decades, and zero otherwise. In columns (4)–(6), these variables represent the total duration (in years) since the passage of the female-specific labor law by the decennial year d (scaled by dividing by 10). Individual-level controls (age, race, ethnicity) are included in columns (2), (3), (5), and (6). In columns (3) and (6), the sample is limited to men employed in female-dominated sub-industries, defined as those where 66% or more of employees are women, following the U.S. Bureau of the Census industry classification. State and decade fixed effects are included in all columns. Standard errors are reported in parentheses and clustered at the state level. Significance levels are *** p<0.01, ** p<0.05, * p<0.1.

Table A14: Female-Specific Labor Regulations and Female Employment: Triple Differences Specification (By Gender)

	Gainful Employment			
	Passage		Years since passage	
	(1)	(2)	(3)	(4)
Seating Laws	0.004	0.004	0.002	0.002
	(0.002)	(0.002)	(0.002)	(0.002)
Female	-0.597***	-0.597***	-0.600***	-0.599***
	(0.010)	(0.031)	(0.009)	(0.032)
Seating Laws × Female	-0.006	-0.003	0.010	0.008
	(0.009)	(0.009)	(0.006)	(0.007)
Health & safety Laws	0.005*	0.005**	0.001	0.001
	(0.003)	(0.002)	(0.001)	(0.001)
Female	-0.599***	-0.599***	-0.603***	-0.601***
	(0.009)	(0.031)	(0.009)	(0.032)
Health & safety Laws × Female	0.006	0.006	0.009***	0.007**
	(0.007)	(0.007)	(0.003)	(0.003)
Night-work Laws	0.001	0.001	-0.002	-0.002*
	(0.003)	(0.002)	(0.003)	(0.003)
Female	-0.589***	-0.590***	-0.585***	-0.586***
	(0.010)	(0.031)	(0.008)	(0.031)
Night-work Laws × Female	0.019**	0.017**	0.012***	0.010***
	(0.008)	(0.008)	(0.003)	(0.003)
Observations	360,716,566	360,716,566	360,716,566	360,716,566
Dep. Var. Mean	0.58	0.58	0.58	0.58
Dep. Var. Std. Dev.	0.49	0.49	0.49	0.49
States	49	49	49	49
Individual Controls	No	Yes	No	Yes
Individual Controls × Female	No	Yes	No	Yes
State FE	Yes	Yes	Yes	Yes
State FE× Female	Yes	Yes	Yes	Yes
Decade FE× Female	Yes	Yes	Yes	Yes

Notes: The unit of observation is an individual. The dependent variable, "gainful employment," is a dummy variable that equals one if an individual aged 16 to 65 reports being gainfully employed, and zero otherwise. Each row presents a separate estimation for one of three female-specific labor laws. In columns (1) and (2), the independent variables of interest—$Seating\ Laws_{sd}$, $Health$ & $Safety\ Laws_{sd}$, and $Night\ Work\ Laws_{sd}$—are binary indicators equal to one for states with relevant laws by the decennial year d and in subsequent decades, and zero otherwise. In columns (3) and (4), these variables represent the total duration (in years) since the passage of the female-specific labor law by the decennial year d (scaled by dividing by 10). The variable "Female" is a binary indicator that equals one if the individual is a woman, and zero otherwise. Individual-level controls (age, race, ethnicity) and their interactions with the Female indicator are included in columns (2) and (4). State and decade fixed effects, along with their interactions with the Female indicator, are included in all columns. Standard errors are reported in parentheses and clustered at the state level. Significance levels are *** p<0.01, ** p<0.05, * p<0.1.

Table A15: Female-Specific Labor Regulations and Female Employment: Heterogeneity By Age Categories

	Female Gainful Employment							
	Age Category							
	16–25		26–35		36–45		46–65	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Panel A: Passage							
Seating Laws	0.009	0.009	-0.002	-0.003	-0.006	-0.007	-0.011	-0.013
	(0.014)	(0.020)	(0.010)	(0.012)	(0.009)	(0.011)	(0.008)	(0.009)
Health & safety Laws	0.024**	0.046***	0.008	0.018**	0.011	0.017**	0.015*	0.017**
	(0.010)	(0.015)	(0.007)	(0.008)	(0.007)	(0.008)	(0.007)	(0.007)
Night-work Laws	0.033**	0.054**	0.017*	0.028**	0.017**	0.025***	0.019**	0.021***
	(0.015)	(0.020)	(0.009)	(0.011)	(0.008)	(0.009)	(0.007)	(0.007)
	Panel B: Years since passage							
Seating Laws	0.023***	0.039***	0.012*	0.021***	0.009	0.016**	0.009**	0.013***
	(0.008)	(0.009)	(0.007)	(0.007)	(0.006)	(0.006)	(0.005)	(0.004)
Health & safety Laws	0.018***	0.028***	0.008**	0.012***	0.005*	0.008**	0.005**	0.007**
	(0.004)	(0.006)	(0.003)	(0.004)	(0.003)	(0.003)	(0.003)	(0.003)
Night-work Laws	0.015***	0.026***	0.016***	0.010***	0.008**	0.012***	0.009***	0.012***
	(0.006)	(0.008)	(0.004)	(0.004)	(0.003)	(0.003)	(0.003)	(0.003)
Observations	52,614,817	48,873,053	47,714,406	45,410,177	37,917,443	36,157,323	43,099,249	41,209,047
Dep. Var. Mean	0.35	0.30	0.23	0.20	0.20	0.16	0.17	0.13
Dep. Var. Std. Dev.	0.48	0.46	0.42	0.40	0.40	0.37	0.37	0.34
States	49	49	49	49	49	49	49	49
Individual Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Decade FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Restricted Sample	No	Yes	No	Yes	No	Yes	No	Yes

Notes: The unit of observation is an individual (women only). Each row presents a separate estimation examining one of three female-specific labor regulations. The dependent variable, "female gainful employment," is a dummy variable that equals one if a woman aged 16-25 (columns 1 and 2), 26-35 (columns 3 and 4), 36-45 (columns 5 and 6), or 46-65 (columns 7 and 8) reports being gainfully employed, and zero otherwise. In columns (1)-(8) of Panel A, the independent variables of interest—$Seating\ Laws_{sd}$, $Health$ & $Safety\ Laws_{sd}$, and $Night\ Work\ Laws_{sd}$—are binary indicators equal to one for states with relevant laws by the decennial year d and in subsequent decades, and zero otherwise. In columns (1)-(8) of Panel B, these variables represent the total duration (in years) since the passage of the given female-specific labor law by the decennial year d, scaled by dividing by 10. Individual-level controls (age, race, ethnicity) are included throughout. In columns (2), (4), (6), and (8), the sample is restricted to female employment excluding domestic work (housekeepers, laundresses, and other private household workers) and midwives. State and decade fixed effects are included in all columns. Standard errors are reported in parentheses and clustered at the state level. Significance levels are *** p<0.01, ** p<0.05, * p<0.1.

Table A16: Female-Specific Labor Regulations and Female Employment: Heterogeneity By Race, Nativity and Hispanic Status

	Female Gainful Employment							
	Passage				Years since passage			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Panel A: Race							
	White		Non White		White		Non White	
Seating Laws	-0.001	-0.004	0.010	0.004	0.006	0.011***	0.002	0.007
	(0.005)	(0.006)	(0.027)	(0.024)	(0.003)	(0.004)	(0.020)	(0.018)
Health & safety Laws	0.004	0.009	0.011	0.029	0.004**	0.007***	0.004	0.018
	(0.005)	(0.006)	(0.026)	(0.033)	(0.002)	(0.002)	(0.012)	(0.016)
Night-work Laws	0.011*	0.016**	0.032	0.062	0.003	0.006**	0.014	0.037
	(0.006)	(0.006)	(0.041)	(0.061)	(0.002)	(0.002)	(0.014)	(0.022)
Observations	162,769,262	156,710,548	18,576,653	14,939,052	162,769,262	156,710,548	18,576,653	14,939,052
Dep. Var. Mean	0.22	0.19	0.45	0.32	0.22	0.19	0.45	0.32
Dep. Var. Std. Dev.	0.42	0.39	0.50	0.47	0.42	0.39	0.50	0.47
	Panel B: Nativity							
	Native		Foreign		Native		Foreign	
Seating Laws	-0.004	-0.003	-0.001	-0.001	0.017***	0.023***	-0.018***	-0.005
	(0.009)	(0.012)	(0.007)	(0.009)	(0.005)	(0.006)	(0.005)	(0.005)
Health & safety Laws	0.017**	0.026**	-0.008	-0.001	0.015***	0.019***	-0.003	0.002
	(0.008)	(0.010)	(0.006)	(0.006)	(0.004)	(0.005)	(0.006)	(0.004)
Night-work Laws	0.029***	0.036***	-0.012	-0.001	0.019***	0.024***	-0.009***	-0.002
	(0.011)	(0.013)	(0.007)	(0.007)	(0.004)	(0.005)	(0.003)	(0.003)
Observations	112,385,191	106,581,388	23,278,421	21,754,013	112,385,191	106,581,388	23,278,421	21,754,013
Dep. Var. Mean	0.25	0.21	0.20	0.14	0.25	0.21	0.20	0.14
Dep. Var. Std. Dev.	0.43	0.40	0.40	0.35	0.43	0.40	0.40	0.35
	Panel C: Hispanic							
	No		Yes		No		Yes	
Seating Laws	-0.002	-0.001	-0.021	-0.020	0.012*	0.021***	0.004	0.010
	(0.010)	(0.013)	(0.019)	(0.021)	(0.006)	(0.006)	(0.011)	(0.011)
Health & safety Laws	0.012	0.023**	0.008	0.018	0.010***	0.014***	0.005	0.009
	(0.007)	(0.009)	(0.014)	(0.016)	(0.003)	(0.004)	(0.004)	(0.006)
Night-work Laws	0.021**	0.031**	-0.018	-0.003	0.010**	0.015***	0.004	0.013***
	(0.010)	(0.012)	(0.014)	(0.017)	(0.004)	(0.005)	(0.004)	(0.005)
Observations	179,684,286	170,074,314	1,661,629	1,575,286	179,684,286	170,074,314	1,661,629	1,575,286
Dep. Var. Mean	0.25	0.20	0.21	0.16	0.25	0.20	0.21	0.16
Dep. Var. Std. Dev.	0.43	0.40	0.40	0.37	0.43	0.40	0.40	0.37
States	49	49	49	49	49	49	49	49
Age	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Decade FE	Yes	Yes	Yes	Yes	Yes	Yess	Yes	Yes
Restricted Sample	No	Yes	No	Yes	No	Yes	No	Yes

Notes: The unit of observation is an individual (women only). Each row presents a separate estimation examining one of three female-specific labor regulations. The dependent variable, "female gainful employment," is a dummy variable equal to one if a woman aged 16-65 is employed and zero otherwise. Individual-level controls for age are included throughout. Panel A presents results from heterogeneity analysis based on race, with the sample limited to white women in columns (1), (2), (5), and (6), and non-white women in columns (3), (4), (7), and (8). Panel B displays results based on nativity, restricting the sample to native-born women in columns (1), (2), (5), and (6), and foreign-born women in columns (3), (4), (7), and (8). Panel C exhibits results based on Hispanic status, with the sample confined to Hispanic women in columns (1), (2), (5), and (6), and non-Hispanic women in columns (3), (4), (7), and (8). In columns (1)-(4), the independent variables of interest—$Seating\ Laws_{sd}$, $Health\ \&\ Safety\ Laws_{sd}$, and $Night\ Work\ Laws_{sd}$—are binary indicators equal to one for states with any relevant laws by the decennial year d and in subsequent decades, and zero otherwise. In columns (5)-(8), these variables represent the total duration (in years) since the passage of a given female-specific labor law by the time the decennial year d arrives, scaled by dividing by 10. In columns (2), (4), (6), and (8), the sample is restricted to female employment excluding domestic work (housekeepers, laundresses, and other private household workers) and midwives. State and decade fixed effects are included in all columns. Standard errors are reported in parentheses and clustered at the state level. Significance levels are *** p<0.01, ** p<0.05, * p<0.1.

Table A17: Female-Specific Labor Regulations and Female Employment: Urban/Rural Heterogeneity

	Female Gainful Employment					
	Passage			Years since passage		
	(1)	(2)	(3)	(4)	(5)	(6)
	Panel (A): Rural					
Seating Laws	-0.003	-0.001	-0.002	0.009	0.009	0.012*
	(0.009)	(0.009)	(0.011)	(0.006)	(0.006)	(0.006)
Health & safety Laws	0.010	0.011*	0.017**	0.008**	0.007**	0.009**
	(0.006)	(0.006)	(0.007)	(0.003)	(0.003)	(0.003)
Night-work Laws	0.027**	0.026**	0.031***	0.016***	0.015***	0.018***
	(0.011)	(0.010)	(0.011)	(0.004)	(0.004)	(0.004)
Observations	88,592,924	88,592,924	84,804,662	88,592,924	88,592,924	84,804,662
Dep. Var. Mean	0.18	0.18	0.14	0.18	0.18	0.14
Dep. Var. Std. Dev.	0.38	0.38	0.35	0.38	0.38	0.35
	Panel (B): Urban					
Seating Laws	-0.002	0.003	0.004	0.000	-0.005	-0.000
	(0.009)	(0.007)	(0.009)	(0.003)	(0.003)	(0.003)
Health & safety Laws	-0.003	-0.005	-0.004	0.002	-0.001	0.001
	(0.006)	(0.006)	(0.006)	(0.002)	(0.002)	(0.003)
Night-work Laws	0.003	0.001	0.001	0.000	-0.001	-0.000
	(0.005)	(0.005)	(0.005)	(0.002)	(0.002)	(0.002)
Observations	92,752,991	92,752,991	86,844,938	92,752,991	92,752,991	86,844,938
Dep. Var. Mean	0.31	0.31	0.26	0.31	0.31	0.26
Dep. Var. Std. Dev.	0.46	0.46	0.44	0.46	0.46	0.44
States	49	49	49	49	49	49
Individual Controls	No	Yes	Yes	No	Yes	Yes
State FE	Yes	Yes	Yes	Yes	Yes	Yes
Decade FE	Yes	Yes	Yes	Yes	Yes	Yes
Restricted Sample	No	No	Yes	No	No	Yes

Notes: The unit of observation is an individual (women only). The dependent variable, "female gainful employment," is a dummy variable equal to one if a woman aged between 16 and 65 reports being gainfully employed and zero otherwise. Each row presents a separate estimation examining one of three female-specific labor regulations. Panel A restricts the sample to women in rural locations, while Panel B focuses on women in urban locations. In columns (1)-(3), the independent variables of interest—$Seating\ Laws_{sd}$, $Health$ & $Safety\ Laws_{sd}$, and $Night\ Work\ Laws_{sd}$—are binary indicators equal to one for states that had any relevant laws by the decennial year d and in the following decades, and zero otherwise. In columns (4)-(6), these independent variables represent the total duration (in years) since the passage of a given female-specific labor law by the time the decennial year d arrives, scaled by dividing by 10. Individual-level controls for age, race, and ethnicity are included in columns (2), (3), (5), and (6). In columns (3) and (6), the sample is restricted to female employment excluding domestic work (housekeepers, laundresses, and other private household workers) and midwives. State and decade fixed effects are included in all columns. Standard errors are reported in parentheses and clustered at the state level. Significance levels are denoted as *** p<0.01, ** p<0.05, * p<0.1.

Table A18: Female-Specific Labor Regulations and Female Employment: Examining "Suitable" Occupations

	Female Gainful Employment in "Suitable" Occupations			
	Passage		Years since passage	
	(1)	(2)	(3)	(4)
Seating Laws	0.001	0.002	0.018***	0.018***
	(0.009)	(0.009)	(0.004)	(0.004)
Health & safety Laws	0.014*	0.014*	0.009***	0.009***
	(0.007)	(0.007)	(0.002)	(0.002)
Night-work Laws	0.023***	0.023***	0.009***	0.009***
	(0.008)	(0.008)	(0.003)	(0.003)
Observations	159,184,540	159,184,540	159,184,540	159,184,540
Dep. Var. Mean	0.14	0.14	0.14	0.14
Dep. Var. Std. Dev.	0.35	0.35	0.35	0.35
States	49	49	49	49
Individual Controls	No	Yes	No	Yes
State FE	Yes	Yes	Yes	Yes
Decade FE	Yes	Yes	Yes	Yes

Notes: The unit of observation is an individual (women only). The dependent variable, "female gainful employment," is a dummy variable that equals one if a woman aged between 16 and 65 reports being gainfully employed in a "suitable" occupation and zero otherwise. "Suitable" occupations include teaching, nursing, non-private domestic services, textile work, office work, and social work. Each row presents a separate weighted estimation examining one of three female-specific labor regulations. In columns (1) and (2), the independent variables of interest—$Seating\ Laws_{sd}$, $Health\ \&\ Safety\ Laws_{sd}$, and $Night\ Work\ Laws_{sd}$—are binary indicators equal to one for states that had any relevant laws by the decennial year d and in the following decades, and zero otherwise. In columns (3) and (4), these independent variables represent the total duration (in years) since the passage of a given female-specific labor law by the time the decennial year d arrives, scaled by dividing by 10. Individual-level controls for age, race, and ethnicity are included in columns (2) and (4). State and decade fixed effects are included in all columns. Standard errors are reported in parentheses and clustered at the state level. Significance levels are denoted as *** p<0.01, ** p<0.05, * p<0.1.

Table A19: Female-Specific Labor Regulations and Female Employment: Examining Male-dominated/Female-dominated Sub-industries

	Female Gainful Employment					
	Passage			Years since passage		
	(1)	(2)	(3)	(4)	(5)	(6)
	Panel (A): Male-dominated Sub-industries					
Seating Laws	-0.008	-0.006	-0.006	0.017***	0.016***	0.016***
	(0.014)	(0.014)	(0.014)	(0.004)	(0.004)	(0.004)
Health & safety Laws	0.024***	0.023***	0.023***	0.012***	0.012***	0.012***
	(0.008)	(0.007)	(0.007)	(0.003)	(0.003)	(0.003)
Night-work Laws	0.032***	0.031***	0.031***	0.017***	0.015***	0.016***
	(0.009)	(0.009)	(0.009)	(0.004)	(0.004)	(0.004)
Observations	153,141,154	153,141,154	152,613,313	153,141,154	153,141,154	152,613,313
Dep. Var. Mean	0.11	0.11	0.10	0.11	0.11	0.10
Dep. Var. Std. Dev.	0.31	0.31	0.30	0.31	0.31	0.30
	Panel (B): Female-dominated Sub-industries					
Seating Laws	0.002	0.004	0.003	-0.011***	-0.012***	-0.002
	(0.006)	(0.006)	(0.002)	(0.003)	(0.004)	(0.002)
Health & safety Laws	-0.012**	-0.011**	0.001	-0.006**	-0.006**	-0.001
	(0.005)	(0.005)	(0.003)	(0.002)	(0.003)	(0.002)
Night-work Laws	-0.011**	-0.011**	-0.000	-0.008**	-0.008**	-0.002
	(0.005)	(0.004)	(0.002)	(0.003)	(0.003)	(0.002)
Observations	152,185,124	152,185,124	143,031,547	152,185,124	152,185,124	143,031,547
Dep. Var. Mean	0.10	0.10	0.04	0.10	0.10	0.04
Dep. Var. Std. Dev.	0.30	0.30	0.20	0.30	0.30	0.20
States	49	49	49	49	49	49
Individual Controls	No	Yes	Yes	No	Yes	Yes
State FE	Yes	Yes	Yes	Yes	Yes	Yes
Decade FE	Yes	Yes	Yes	Yes	Yes	Yes
Restricted Sample	No	No	Yes	No	No	Yes

Notes: The unit of observation is an individual (women only). The dependent variable, "female gainful employment," is a dummy variable that equals one if a woman aged between 16 and 65 reports being gainfully employed in a gainful occupation, and zero otherwise. Each row presents a separate estimation examining one of three female-specific labor regulations. Panel A restricts the sample to employed women working in sub-industries dominated by males, while Panel B focuses on those in female-dominated sub-industries. A sub-industry is considered male-dominated (or female-dominated) if 66% or more (i.e., more than two-thirds) of its employees are men (or women). The composition of the sub-industries follows the categories outlined in the U.S. Bureau of the Census, Alphabetic Index of Occupations and Industries: 1950 (Washington, D.C., 1950). In columns (1)–(3), the independent variables of interest—$Seating\ Laws_{sd}$, $Health\ \&\ Safety\ Laws_{sd}$, and $Night\ Work\ Laws_{sd}$—are binary indicators equal to one for states that enacted any seating, health and safety, or night-work laws by the decennial year d and in the following decades, and zero otherwise. In columns (4)–(6), these independent variables represent the total duration (in years) since the passage of a given female-specific labor law by the time the decennial year d arrives, scaled by dividing by 10. Individual-level controls for age, race, and ethnicity are included in columns (2), (3), (5), and (6). In columns (3) and (6), the sample is further restricted to female employment excluding domestic work (housekeepers, laundresses, and other private household workers) and midwives. State and decade fixed effects are included in all columns. Standard errors are reported in parentheses and clustered at the state level. Significance levels are denoted as *** p<0.01, ** p<0.05, * p<0.1.