Regulating Child Labor: Evidence from the US Progressive Era

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Abstract

From 1880 to 1920, child labor in the United States fell dramatically. At the same time, most states passed laws regulating minimum working ages and mandating compulsory schooling laws. Past quantitative work based on census samples have yielded mixed results on the efficacy of these laws and historians have questioned whether the politically powerful employers of children would allow such regulation if child labor was in high demand. Turning to the newly-digitized complete count census data from 1880, 1900, 1910, 1920, and 1930, we find large effects of child labor laws and compulsory schooling laws on child labor. While Progressive era legislation reduced labor from boys and girls in equal measure, the laws did had differential effects, binding in urban areas especially in the largest cities and more for the children of foreign-born parents. Children with parents working in manufacturing and textiles were especially affected by the labor restrictions. In contrast to the reduction of labor supply among white children in urban areas, we find that legislation had mixed effects on the odds of children not explicitly targeted by the reformers, in particular rural white and black children.

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1 Introduction

In 1880, more than 20% of 13-year-old boys from non-farm household were working in the United States. By 1930, the rate had fallen to less than 5%. Decreases, though from a lower starting point, were similarly dramatic for girls. In this same period, many states enacted legislation to limit child labor. While only Pennsylvania forbid 13-year-olds from working in 1880, by 1930 nearly every state prohibited 13-year-old employment. The declines in child labor among other age groups were sharp as well: even 16-year-old boys reduced their labor supply from more than 60% in 1880 to less than 25% in 1930, although only a few states prohibited 15- and 16-year-olds from working.

Do the child labor legislation passed during the Progressive era deserve the credit for defeating the "evils of child labor" (Parker 1908, p. 50)? In contrast to the pronouncements of contemporaries, scholars of child labor have been more circumspect. Landes and Solmon (1972) suggest that child labor laws—and other progressive era laws—may have followed the movement of child out of employment, rather than spurring it. The largest employers of children in this era—including textile factories in the South, coal mines in Appalachia, and various industries in the Midwest—were politically powerful at the state level and legislation against their economic interests like child labor regulations may only have passed with their consent. Moehling (1999) concludes similarly, suggesting that—at least based on the small samples of the 1880, 1900, and 1910 census she worked with—child labor laws did not reduce the probability of children working.[1]

However, more recent work has further muddled the picture, suggesting that declines after 1910 or 1920 in child labor may indeed have been driven by legislation. Manacorda (2006)—examining the IPUMS 1% cross-section of the 1920 census for evidence of spillovers from working children on their siblings or parents—reports a significant increase in the odds a 10 to 16 year old works when eligible to under child labor minimum age laws.[2] Fagernäs

[1] If child labor laws did not reduce the rate of child labor in the US, what did? Moehling (1999), surveying the economic and historical literature, points to changes in technology and immigration waves increasing the supply of unskilled workers. (Goldin 1979, 1981; Osterman 1979; Parsons and Goldin 1989; Brown et al. 1992; Carter and Sutch 1996b)

[2] On the spillovers in question, Manacorda (2006) finds that children have spillover effects on their siblings'

(2014) emphasizes the roll of birth certificate requirement laws: pooling 1% IPUMS samples from 1910 to 1930, Fagernas finds that child labor laws reduced the probability a child worked but that the effect was twice as large in for cohorts born with a birth registration law. These two papers add to the literature of child labor but were primarily focused on other questions—Manacorda on intrafamily spillovers, Fagernas on birth registration effects—and a later period when urban child labor was already in retreat nationally.

Another aspect unclear in the child labor literature is the relative importance of the different laws believed to have affected child labor rates. Few contributions have analyzed both minimum working age cutoffs and years of mandatory schooling arriving at different conclusions on whether both laws played an active role (Margo and Finegan 1996; Moehling 1999; Lleras-Muney 2002). In addition, the scope of these papers was not to explain the reduction in child labor rate per se, leaving the question unanswered.

In this paper, we study the effects on child labor rates of child labor laws (CLL) and compulsory schooling laws (CSL) from 1880 to 1930.[3] Using state session laws, we code state level legislation on child labor age minima and number of years of schooling and link it to the complete count decennial census data. We summarize the age cutoffs for both type of laws into two indicators that allow us to investigate if the two sets of laws reinforced each other or were substitute. The 100% samples of the census allow us to be more confident in our main empirical analysis and to examine the effects of the Progressive era regulations on subpopulations of interest.

We find that Progressive era legislation did bind, at least for the white, urban child workers targeted by reformers. We start by motivating our analysis of child labor and schooling laws by showing that, while they were positively correlated they were not collinear. We then ask if variation in the two sets of laws worked together or if either law was enough to reduce child labor. We do not find evidence that compulsory schooling and labor laws

labor supply, but no effect on their parents' labor supply, exploiting state and age variation in the coverage of child labor laws. Lingwall (2014) extends Manacorda's work to all the decades available prior to 1920 using IPUMS samples with information between 1 and 10 in 100 US children. He finds that child labor laws had a negative but no significant effect on the probability of kids being employed.

[3] In the rest of the paper, we refer to the Progressive era legislation as both child labor and compulsory schooling laws.

reinforced each other. On the contrary, we argue that either law was sufficient to decrease the likelihood children worked. While the laws did not reinforce each other, we find that they were complementary in timing. CLLs were particularly strong between 1880 and 1910 when children subject to child labor laws were 5 to 8 points less likely to work. CSLs reduced child labor by the end of our study period in 1920 and 1930, when the effect of CLLs faded. The effects were similar for treated boys and girls throughout the period though slightly higher for boys.

We estimate the causal effect of CLL and CSL on child labor supply using a triple Differences-in-Differences-in-Differences (DDD) design. Assignment to treatment depends on state of residence, age, and census year. We explore all three dimensions of treatment comparing the difference in occupation rates of children of different ages, before and after their states of residence enacted child laws, between states with the restriction and states without it. Our identification strategy follows closely Moehling (1999) but differs from hers by exploiting the complete count decennial census data and by investigating the role of both CLL and CSL.

We find significant variation in the effectiveness of Progressive era laws depending on the characteristics of children's household. We document that the laws had the most bite among native children from households with lower occupational status and with a household head employed in child labor intense industries: textile and manufacturing. In particular, the results seem to be driven by children living in large cities in large metropolitan areas.

The paper proceeds as follows. In Section 2, we document patterns of child labor in the late 19th and early 20th century, as well as the political and economic origins of child labor laws and their enforcement. In Section 3, we detail our data, combining a panel of child labor and compulsory schooling laws with the complete count census files from 1880 to 1930. In Section 4, we describe our DDD identification strategy, comparing children in the age range that laws targeted in states with and without restrictions before and after enactment of the laws. In Section 5, we present our results. Section 6 concludes the paper.

2 Historical Background

In this section, we describe the twin histories of child labor in the United States and its regulation at the state and federal level.

As America industrialized in the nineteenth century, children were drawn into work as cheap substitutes to adult labor, similar to other growing nations of the era (Hindman 2016). Before industrialization, children had worked alongside their parents on the farm; with work moving to new—and in some cases more dangerous—locales, that trend continued.[4] But around the turn of the 20th century, child labor was becoming rarer, at least for whites working out of agriculture, declining significantly from 1880 to 1910. Among white children in non-farm households nationally, as we document in Figure 1, nearly 35% of boys aged 14 were working in 1880. These rates fell to barely over 20% in 1910. Though the levels were lower among 13 year old boys, the downward trend was similar. For girls, both aged 13 or 14, the rates were lower in all census years and relatively flat from 1880 to 1900. However, even from a lower base, girls reduced their rates of labor supply from 1900 to 1910.[5]

[Figure 1 about here.]

While reformers took aim at the "inadvisability and inhumanity of employing children of a young and tender age in gainful occupations," (Gompers 1906, p. 337) legislation was either stymied or ineffective until the late 19th century. Massachusetts was the first state to pass a law regulating child labor, prohibiting in 1837 the employment of children under 15 unless the child had attended 3 or more months of school in the previous year (Moehling 1999). Ensign (1921) blames weak or non-existent enforcement for the failure

[4] In colonial America, child labor had also included indentured servants—"an effective way to deal with the problem of orphans and children of poor and dependent parents in England and continental Europe"—working off the debts of Atlantic passage (Hindman 2016, p. 25). The story is different for the black population. Though Hindman (2016) argues that the abolition of slavery "can be properly considered the first major child labor reform in America," rates of labor among black children remained extremely high throughout the 19th century. With many African-Americans living in the slow-to-industrialize South, family work patterns in agriculture persisted throughout the postbellum period.

[5] In Appedix A.1, we show comparable graphs for black children and children on farms. We find similar trends but at higher levels of child labor for non-whites in non-farm households (Figure A.1) but starkly different trends for farm households of all races (Figures **??** and A.2).

of Massachusetts' law to meaningfully reduce child labor. Later reforms of the nineteenth century were even less successful, failing completely or passing weaken versions in state legislatures dominated by manufacturers reliant on child labor (Moehling 1999).[6] Southern manufacturers, particularly cotton and other textile manufacturers, were strongly opposed to child labor or compulsory schooling laws. Some feared restrictions on child labor would encourage labor unions and organizing in the south (Gompers 1906, p. 340). Others that child labor was a "entering wedge" with which unions would enter the south and advocate for minimum wages, safety laws, and other regulation (Hindman 2016, p. 48). But opposition to child labor regulation was common to Northern mill owners as well: manufacturers in Fall River, MA echoed southern mills in claiming that employment for children was a "service to widow-headed households" (Kleinberg 2005).

Minimum working age laws and compulsory schooling laws spread across the country in the late nineteenth and early twentieth century, as we depict in Figure 2. Few states had minimum age laws in 1880 but over the next two decades, child labor legislation was enacted in the Midwest and the Northeast. The rest of the nation followed in the early 1900s. By 1910 only three western states—Nevada, Utah, and Wyoming—did *not* mandate a minimum age before work or to leave school.[7] By 1930, almost all states restricted child labor or imposed children to go to school before 14 and several for children under 16. However, even these broad regional trends simplify the "crazy quilt" of state legislation over child labor, leading to variation between neighboring states (Hindman 2016, p. 53).

[Figure 2 about here.]

While state governments unevenly led the way on regulating child labor, Congress largely was irrelevant. Moehling (1999, p. 78) provides a more detailed discussion of federal child

[6] Goldin and Sokoloff (1982)—echoing Alexander Hamilton—argue that child (and women) were essential to the growth of industry in the northeastern US in part because of their relatively low productivity in pre-industrial economy. Thus, early industrializers had lots of low wage workers (children and women) to draw on in factories. These manufacturers, both in the Northeast and the Midwest, but also the South after the Civil War, were very powerful politically.

[7] Arizona and New Mexico are also uncolored in our maps until they were admitted as states in 1912. We omit them from our analysis.

labor laws in this period. Two laws that did ultimately pass—the Keating-Owen Law of 1916 and the Pomerene Amendment to the 1918 Revenue Bill, also known as the Child Labor Tax Act—were both rejected as unconstitutional by the Supreme Court. Federal legislation did not play a role in regulating child labor until the Fair Labor Standards Act of 1938, well after our period of study and after huge declines in child employment rates.[8]

Reformers had opposed industrial child labor for decades; what changed after 1880 to allow anti-child labor legislation to pass in so many states across the US? Moehling (1999) suggests that legislative progress was quickest after children became a small—less than 7%—share of manufacturing employment. In addition, an erroneous tabulation of the 1900 Federal Census may have also played a role in powering the anti-child labor activism (Moehling 1999). The 1900 census appeared to conclude that more children had gainful employment in 1900 than had in 1880. This shocked reformers and led to a redoubling of efforts, including the founding of the National Child Labor Committee in 1904 (Moehling 1999) and various state committees. These new interest groups pushed back on child labor and manufacturing interests with campaigns in the popular press (Straughan 2007). As Moehling (1999) cites, however, a re-evaluation of the child labor data by Carter and Sutch (1996a) suggests that the rates of children with gainful employment were falling not rising from 1880 to 1900. We document in Figures 1 and **??** that child labor does appear to have fallen from 1880 to 1900, but the national patterns obscure stark differences in employment rates between urban and rural children, with children on farms much more likely to work than their urban cousins.

Organized labor was a prime supporter of imposing children to go to school instead of working (Hindman 2016; Gompers 1906). Unions members, to the extent they competed with child laborers—stood to benefit in the labor market from increased restrictions.[9] The

[8]During World War One—after our period of study and unobserved in decennial census data—Felix Frankfurter, then chairing the War Labor Policies Board, did use the purchasing power of the Federal Government during wartime to knockdown child labor. Though already rejected by the Supreme Court, Frankfurter required adherence to the standards about child labor set in Keating-Owen for all federal war contractors (Hindman 2016, p. 62).

[9]While child laborers had been known to strike, these were often "spontaneous acts of rebellion" (Hindman 2016, p. 44) and children were unlikely to be useful allies to the adult organized labor movement.

Knights of Labor, founded in 1869, included a call for the abolition of child labor in their constitution, position advocated by many other labor organizations of the era including the precursor to the AFL. As Samuel Gompers, president of the AFL, wrote in 1906, "[t]here is not a child labor law on the statue books of the United States but has been put there with the co-operation of the trade union movement." Gompers cited success of restrictions in states with weak union movements, including Alabama, Tennessee, and Texas, as well as Oregon.[10]

Both child labor legislation and compulsory schooling laws worked by setting a minimum age for employment or to leave school, often at 14 years of age. Our identification strategy exploits this variation in age requirements across states and over time. As we show in Figure 3, while few children of 13 or 14 were covered by CLLs in 1880, by 1910 more than 80% of 13 year-olds are restricted from working but very few 14 year-olds were. The bottom panel shows that compulsory schooling laws instead regulated more children including those that were 14 and 15 years old.

[Figure 3 about here.]

3 Data

To estimate the effect of Progressive era laws on child labor—and explore heterogeneity in this effect across families and cities—we draw on two primary sources of data, a state by year panel of child labor and compulsory schooling laws and—to measure the participation of children between the age of 10 and 16 in the labor market—the complete count censuses from 1880, 1900, 1910, 1920 and 1930. In this section, we document the construction of the legislation data and describe the census data.

[10]Not all unions stood strong against child labor. The glass blowers unions of the Midwest pushed for lower minimum age laws when the alternative was an increase in immigrant or black workers in glass blowing; one local union president told an NCLC investigator that he was "not sure where the men would stand" and did "not have definite ideas on the child labor question," (Hindman 2016, quoted on p. 116).

3.1 State-Level Legislation

The regulation of child labor at the turn of the 20th century was a state matter. States regulated child labor either directly through child labor minimum age cutoffs or indirectly, imposing compulsory schooling until children reached a given age. We exploit the variation in these laws across states to identify their effects. Crucially, over time many states adopted different legislation to curb child labor, inducing variation in age cutoffs from either CLL and CSL or both. We document state level variation in age cutoffs in Figure 2.[11]

Though Progressive era state legislation varied on many dimensions, we focus on minimum age restrictions for three reasons. First, age limits are one of the regulations most commonly chosen across states. Second, minimum age limits are clearly defined in both CLLs and CSLs and naturally set up our identification strategy; this allows us to compare kids just over or just under the age cut off of either or both laws across states. Third, likely owing to the previous two points, most prior literature on child labor in the US estimates the effects of minimum age laws as well. Other restrictions included minimum grade completion, or a limit on the total number of hours a child could spend at work. For other restrictions that do not vary by age—hour limits for example—the state by census year fixed effects will difference out these effects.[12] Our main source for CLL and CSL age cutoffs are the original state session laws; we make sure our data is consistent with other scholars that collected similar data (Ogburn 1912; Lingwall 2014; Goldin and Katz 2008).

For both CLL and CSL, we translate the statutory age limit to a treatment indicator equal to one if a child was a resident in a state that imposed a minimum age cutoff greater than his or her age. To give an example: in 1900, Massachusetts had a minimum working age requirement of 14 for boys and girls while New Hampshire had no regulation at all. 14 year-olds in both MA and NH would get a 0 for treatment, as would 13 year-olds in NH. But 13 year-olds in MA in 1900 are treated by CLL. We systematically exploit this

[11] It is unclear if child labor laws were implemented in unincorporated territories, hence we drop from our analysis children that grew up in the territories of Arizona and New Mexico.

[12] If states used alternative child labor regulations that do vary by age as substitutes for minimum age laws, we are likely identifying a lower bound of the treatment effect.

variation for both CLLs and CSLs. Much of the effective variation across and within states is between 13 and 14 year-olds. While many states allowed 14 year-olds to work or leave school, few allowed 13 year-olds to do so (Table 1).

[Table 1 about here.]

An important premise to exploit state level variation in CLLs and CSLs to identify their effects on child labor rates is that we can separately identify the effect of both legislation. Previous work on this has emphasized the tight link of both laws to the point that one might worry they were actually collinear (Margo and Finegan 1996; Moehling 1999; Lleras-Muney 2002). We show that this was not the case. In Table 2 we present evidence that CSLs do not systematically predict CLLs. Boys treated by CSL are 60 percent more likely to be treated by CLL too. When we control for state, age and year fixed effects, the correlation coefficient indicates a much smaller correlation. Column 3 include also the interaction of state, year and age fixed effects. This soaks up almost all the variation in CLL, reducing the conditional correlation coefficient to be a tiny and marginally significant seven percent. While the rule out of both sets of laws was positively correlated, we conclude that we have room to analyze CLLs and CSLs separately.

[Table 2 about here.]

3.2 Complete Count Census Data

We analyze the effects of Progressive era legislation on all children aged 10 to 16 in the US from 1880 to 1930 observed in the decennial censuses. Our choice of focusing on children between 10 and 16 years old is dictated by the age range of the legislation (see for example Table 1).

An important difference of our data from previous work on child labor (Moehling 1999; Fagernäs 2014; Manacorda 2006) is our use of the full count censuses, recently digitized by IPUMS (Ruggles et al. 2010). Constrained by the available data at the time, sample sizes

in Moehling (1999) are very small: for 1880 Moehling uses a 1%s sample, while for 1900 and 1910, her sample size is even smaller, 1-in-760 and 1-in-250 respectively.[13] In contrast, we observe the entire population of the US in 1880, 1900, 1910, 1920, and 1930.[14] The increase in sample size allows us to be more confident in our findings and enables us to explore heterogeneity across subsamples. Only with the complete count data could we be confident estimating effects of Progressive era laws by children or parents' nativity or across children from different SES quartiles.

We measure whether children are employed or not using their reported occupation in the census. We code children as employed unless she or he reports a non-occupational response (at school or invalid) or no occupation at all.[15] As was true for Moehling (1999), we are unable to look at temporary participation in the labor force because, for most years, census enumerators reported occupation only for persons who were regularly employed.[16]

We integrate the data on CLLs, CSLs and children occupation with a large host of controls on the socio-economic background of the children and their families. Exploiting the size of the complete count censuses, we are able to include richer set of covariates than previous studies working on child labor (Moehling 1999; Fagernäs 2014; Manacorda 2006). We collect information on children's age, gender, race, nativity and several characteristic of the household they lived in. We include information on the geographic location of the household: state and county of residence, whether the family lived on a farm, in a rural or in an urban area. We use the information on family size and other records in the family to

[13]The sample sizes in Fagernäs (2014); Manacorda (2006) are slightly larger, both drawing on IPUMS 1%s, but are still small enough to preclude subsample analysis of groups of potential child laborers of interest.

[14]We are unable to make use of the 1890 Federal Census because the microdata was destroyed in a fire in January 1921. We stop our analysis in 1930 because child labor was much rarer by 1940, see Figure 1 for child labor rates until 1930.

[15]Other papers exploring child labor construct child employment or child labor supply in similar ways (Manacorda 2006; Fagernäs 2014). IPUMS coding defines labor force participation only for persons 16 years and older, but in the historical censuses these variables, like our measure of employment, are all based on the same underlying occupation question in the census.

[16]In 1910, enumerators were instructed to ask occupational questions to all persons, specifically including women and children (Moehling 2004). In other years, the occupations of some employed children may not have been recorded. Despite this slight difference in the universe of people enumerators were to focus on between 1910 and the previous decades, it is unlikely that children without a regular job would have declared having a gainful occupation, in particular vis-a-vis the growing attention around the child labor. Further, for this to be a serious complication for the comparison across census years, the number of children reporting gainful employment would have had to differ systematically across states and age.

count the number of younger and older siblings as labor market decisions for children might have been affected by their siblings labor supply (Manacorda 2006). Defining household head as the child's father, we control flexibly for age, race, nativity, labor force participation, occupation, industry and occupational scores.[17]

Our main sample is composed by white children living outside farms. We define as a farm child any child living on a farm or with a family head working in agriculture. We choose this as our main sample for two reasons. First, the target of the laws were children in industries other than agriculture, mostly manufacturing, mining and textile. Second, the definition of child labor on farms is looser and more prone to be seasonal, something that we are not able to capture. However, we do explore the effect of CLLs and CSLs on other subsamples of interest including households living on farms: black children, white children living on farms and white children in rural areas but outside farms.

4 Empirical Specification

To estimate the causal effect of the Progressive era legislation on child labor supply, we implement a triple Differences-in-Differences-in-Differences (DDD) design, replicating the identification strategy used by Moehling (1999) and Fagernäs (2014).

Assignment to treatment—either CLLs or CSLs—depends on state of residence, age, and census decade. We explore all three dimensions of treatment comparing the difference in occupation rates of children of different ages, before and after their states of residence enacted child labor laws that apply to some ages and not others, between states with age restriction and states without.

Importantly, the DDD strategy requires a weaker—more plausible—set of assumption to identify the causal effect of CLLs or CSLs than a DD specification. To be specific, we consider one of our main sources of variation: 13 and 14 year-olds, because many laws restricted labor from the younger group but not the older. The DDD is a valid strategy if

[17] In case the father is missing, we assign the mother as head of the family. If both are absent, we use the census designated household head.

the difference in labor market participation between 13 and 14 year-olds would have been the same in states that eventually passed the law, and in states that did not, had the states that enacted the laws not passed them. The third layer of differences buys us the possibility to compare differences in labor force participation between children in a very narrow age range, and demand that these differences would have kept evolving in the same way, had the child labor laws not being enacted. We augment the DDD specification with a large set of individual and household level controls (see Data section for deatils). Controlling for these factors allows us to compare kids with a similar household background with respect to important determinants of labor force participation such as nativity, family head's industry of employment, family head's occupational status proxied by occupation score, and several geographic controls. By holding these attributes constant, we are less concerned that age differentials in labor force participation might have diverged from what they would have been in a world without legislation.

We test the effects of CLLs and CSLs from 1880 to 1930. The maps in Figure 2 depict a neat picture of the temporal and geographic variation of the child labor and compulsory schooling laws enactment.[18]

Our estimating equation is relatively straightforward. In all cases, we estimate the effects of treatment from a Progressive era law (Law_{ats} in Equation (1)) on the probability that a child reports an occupation in the census ($Employed_{iats} = 1$ in Equation (1)). To implement the DDD, we include fixed effects for state s, age a, and census year y, as well as pairwise interactions between all three sets of fixed effects (the γs in Equation (1)).

$$Employed_{iats} = \beta \times Law_{ats} + \gamma_a + \gamma_t + \gamma_s + \gamma_{at} + \gamma_{as} + \gamma_{ts} + X_{iats} + \epsilon_{iats} \qquad (1)$$

When we investigate the interactive effect of CLLs and CSLs, we include both laws and their interaction along our DDD machinery. In that case, our estimating equation looks like Equation (2), where $\mathbf{\Gamma}$ refers to the set of all the state, age, and census year as well as

[18]For consistent exposition we show the status of child labor laws across states in 1890. However, the destruction of the 1890 census microdata prevents us from analyzing that decade.

pairwise interactions between all of the three sets of fixed effects.

$$Employed_{iats} = \beta_1 \times CLL_{ats} + \beta_2 \times CSL_{ats} + \beta_3 \times CLL_{ats} \times CSL_{its} + \mathbf{\Gamma} + X_{iats} + \epsilon_{iats} \quad (2)$$

The identifying assumption of our DDD setup requires that treatment and control group do not show significantly different pre-trends in child labor rates before the enactment of the legislation. We can easily check this assumption by expanding our main specification allowing for leads and lags of our treatment. Equation (3) shows the event study version of our DDD model, where again $\mathbf{\Gamma}$ refers to the set of fixed effects and their pairwise interaction, and X_{iats} is the set of child and household controls. Our data spans five decades so, instead of a single coefficient, we estimate up to four leads and four lags of the treatment effect.[19] The contemporaneous effect is captured by β_0, the coefficient attached to the indicator that equals one at treatment decade k_{iats} specific to those children treated in that decade. The parallel trends assumption holds true if all coefficients on all leads (β_j for $j < 0$) of the treatment are not distinguishable from zero. Further, with this model we can trace the dynamic of the treatment effect decades after the enactment of the legislation (β_j for $j > 0$).

$$Employed_{iats} = \sum_{j=-4}^{4} \beta_j 1\{t = k_{iats} + j\} + \mathbf{\Gamma} + X_{iats} + \epsilon_{iats} \quad (3)$$

We run all our specification including a large set of location, household, and child specific controls (see data section for detailed discussion of the controls we are using). We cluster our standard errors at the state level to allow for serial correlation over time.

[19] With the exception of the 1890 gap, leads and lags are naturally defined by the decade span between one census and another.

5 Did Progressive Era Legislation Reduce Child Labor?

Contrary to past findings, our results suggest that child labor laws did reduce the rate of white children in non-farm households working at the turn of the century. In this section, we document our main finding. In addition, we show that the effects of CLLs were strongest among poorer households and children with parents working in manufacturing and particularly textiles. The children of foreign-born parents were also more likely to leave the labor force in response to CLLs. Finally, we show that the effects of CLLs were largest in the biggest cities.

5.1 Effect of Child Labor Laws on Urban Child Labor

We begin by examining the effects of Progressive era legislation on white children in non-farm households. While child labor on farms was much more common in the late nineteenth and early twentieth century than work in industry or elsewhere, the reformers and legislators of the period focused on "villains" sending "the young to work in mills and mines" (Gratton and Moen 2004, p. 355). The major national anti-child labor reform group, the National Child Labor Committee, did not investigate agriculture until 1910, well after most states had banned work for children 13 and under (Hindman 2016, p. 282). We start our study of the effects of CLLs and CSLs, then, where contemporaries placed their emphasis.[20]

Did Progressive era laws bind? Among whites not living on farms, our answer is a resounding yes (Table 3). Compared to states without legislation, children of the same age in treated states after legislation is enacted are much less likely to be working after legislation. Columns 1 and 2 of Table 3 suggest that CLLs and CSLs reduced the odd a boy worked by a magnitude of 3.1 and 2.7 points respectively off a baseline of 14.9%. In column 3, we include both treatments in the same regression. This slightly reduces the magnitude of coefficients, leaving our conclusions unchanged. The tiny reduction can be accounted by the small positive correlation between the two legislations (see Table 2). Among girls, the

[20] In his analysis of child labor and intrafamily spillovers in 1920, Manacorda (2006) limits the sample to urban households, speculating that child labor law enforcement may have been more lax in rural areas. With the complete count data, we can and do test the differential effects of CLLs in urban and rural areas.

effect of CLLs on child labor are similar to the ones for boys. Instead, the reduction induced by CSLs is smaller for girls but still economically significant compared to girls' lower 9% rate of labor force participation[21].

We test for the interactive effect of CLLs and CSLs in column 4 of Table 3. Some literature suggested that the laws reinforced each other and child labor rates plummeted more sharply among children treated by both CLLs and CSLs (Margo and Finegan 1996). We do not find corroborating evidence to this hypothesis. Column 4 of Table 3 suggests that CLLs and CSLs did not systematically reduce the likelihood boys worked when both laws applied together. This is equally true for girls. Given the lack of an interactive effect we conclude that either legislation was effective in curbing child labor during the Progressive era. We summarize this perspective in column 5 where we define treatment with an indicator that equals one if the child was covered by either law. In line with results from previous columns, we find that boys and girls covered by either law were less likely to work by 2.9 and 2.1 points respectively. In the rest of the paper we maintain this approach. We systematically show that CLLs and CSLs did not reinforce each other across all of our samples. We then use the either law treatment to parsimoniously investigate the effect of the Progressive era legislation on child labor rates.

[Table 3 about here.]

The effects of CLLs and CSLs, however, were not constant over time. In Figure 4, we interact CLL and CSL treatment with year indicators, allowing the effect of the CLLs to vary in each decennial census.[22] We find that decades in which CSLs did not reduce child labor, CLLs did and vice-versa. CLLs were mostly effective from 1880 to 1910, reducing male child labor by 2.7 to 5.6 points and female child labor by 4.5 to 8 points. The effects

[21] The magnitudes are larger if we benchmark to pre-treatment 1880 child labor rates: 25.6% for boys and 11.1% for girls.

[22] We know that census enumerator instructions about recording child occupations were different in 1910. However, our triple difference identification strategy includes year and year-by-age fixed effects. Thus, we identify the effect of a child labor law in 1910 off the variation across states and ages. Because census enumerator instructions were the same in all states—the Census is run by the Federal government—we are not worried about the change in enumeration practices affecting our conclusions.

of CLLs pan out by 1920 and 1930. By then the effect of CSLs becomes stronger and significant, especially in 1930 when it reduces child labor by 6 points for boys and and 3 for females. We conclude that while CLLs and CSLs did not reinforce each other, they were complementary across time in reducing child labor rates.

[Figure 4 about here.]

Before we discuss the heterogeneous effects of CLLs and CSLs, we bring evidence to the identifying assumption of our DDD setup. We show that there was no difference in child labor trends before the enactment of the legislation. We do so by implementing an event study type of analysis where we expand our treatment with leads and lags of the treatment effect we showed in Table 3. Figure 5 shows that treated children were not significantly less likely to work until they were actually treated by either CLLs or CSLs. In contrary, the estimates of the leads show a positive sign, though not distinguishable from zero.

The event study confirms our estimate of a negative contemporaneous effect of the Progressive era legislation. It also suggests that these effects amplified over time. Treated boys and girls were less likely to work at treatment year by 3.4 and 2 points respectively. One decades past treatment year this effect are almost twice as large (in magnitude) for boys and for girls (5 and 3.4 points respectively). Treatment effect keeps growing for boys and, to a lower extent for girls up to three decades after treatment decade. However, we are more cautious to interpret estimates of lags and leads far from treatment decade. In fact, leads and lags far from treatment decade are estimated with a shrinking number of observations, making our confidence intervals particularly large.[23]

[Figure 5 about here.]

While child labor laws had roughly similar effects for white boys and girls in our main sample, there was significant variation in their impact across other dimensions.

[23]Kline (2012) suggests estimating all leads and lags and then reporting estimates of only the coefficients for which sample size are reasonably balanced. We show all coefficients but remain cautious in the interpretation of especially leads $j = -3, -4$ and lags $j = +4$. The coefficient for the estimate of the event dummy for $j = -3, -4$ represent only 1.6 percent of the whole sample. The event dummy for $j = +4$ is estimated using 1.2 percent of the sample.

5.2 Heterogeneous Effects of Child Labor Laws

We investigate the heterogeneous effects of Progressive era legislation starting by the set of children that constituted reformers' target. We document that child labor laws and compulsory schooling laws were particularly successful among urban children in dire economic circumstances and with parents hired in intense child labor industries: textile and manufacturing. We show that CLLs were more successful than CSLs in reducing non-native child labor. Both laws were particularly strong in urban areas and largest US cities. Finally, we present results suggesting that household with at least one family member were more successful in complying with state level regulation.

5.2.1 Child Labor Laws by Parent Socioeconomic Status and Occupation

The historical record suggests that reformers viewed child labor as exploitation by parents of their children. Studying newsboys, Adams (1905) claimed that "[t]he newsboy in many instances is exploited by parents, who find that the boy can earn as much in a few hours as the father can in a day, and in consequence see little need that both should work... The child of such a parent can be protected only by law." Were legislation during the Progressive era especially effective at reducing child labor among the children of the disadvantaged?

We find that the effects of CLLs and CSLs were weakest for the sons and daughters with parents at the top of the occupational status distribution. We partition our sample based the occupation score of the household head into ranking quartiles.[24] In Figure 6, we plot the coefficient on either law treatment status from our DDD design from separate regressions by sex and by parent SES quartile group. We see that the effect of the CLLs and CSLs increased in bite as children's parents fell down the occupational rankings. The trend in these relative effects is somewhat steeper for boys than girls. The effect of a Progressive era law on the probability a boy worked was nearly twice as strong for boys with parents

[24]Prior to 1940, the Federal Census did not ask individuals about their income or earnings. However, respondents did report their occupation. Occupation scores represent the median earnings for a given occupation and are a convenient way to convert occupation data to a continuous measure of socio-economic status. As is standard in the economic history literature, we use occupation scores calculated by IPUMS Ruggles et al. (2010) based on the medians of earnings by occupation 1950 census.

from the bottom of the SES distribution than boys with parents at the top. Children with higher status or higher earning parents were less likely to work in the US historically.[25] While rates of child labor also fall with parent's status, the results in Figure 6 suggests that the legislation achieved one of the social reformers' aims, reducing work among children who might otherwise be pushed into the labor force by their families' more dire economic circumstances.

[Figure 6 about here.]

Child labor reformers in the early 20th century were especially concerned with child following their parents into the factories, particularly in manufacturing industries like textiles. The so-called "family wage system" (Hindman 2016, p. 37) formalized this process, with employers paying out wages to the head of household for a full family of workers. Families working together also solved the childcare problem of where to send young child while their parents worked. In the Pelzer "show mills" in South Carolina, children 12 and over were expected to work in the mill and families violating the policy would be discharged and evicted from company housing (Hindman 2016, p. 39). McKelway (1906) estimated more than 60 thousand children under 14 worked in the mills of the Carolinas, Georgia, and Alabama.

While Progressive era laws reduced child labor of all boys and girls in urban America, we find much larger effects among the children of manufacturing and especially textile workers, as seen in Table 4. Though the children of parents working in textile were 15 to 24 percentage points more likely to be employed, these effects were almost entirely undone by access to either legislation. We estimate that provision of either CLLs or CSLs reduces the odds a child of a textile worker is working in any job by an additional 15 to 20 points, on top of the direct legislation effect. On the other hand, we do not find that

[25] Drawing data from the 1890 and 1891 Annual Reports of the Commissioner of Labor, Parsons and Goldin (1989) estimate higher rates of child labor when fathers earn less, though these effects are concentrated among parents working in textiles. Bhaskar and Gupta (2012) find significant income effects on child labor supply in a reanalysis of the same data. We find a similar relationship in 1880, 1900, and 1910 in the complete count data using parents' occupation score. Edmonds (2005) similarly finds less child labor in Vietnam during the 1990s when parents' economic status improved, though evidence from other developing countries today is mixed (de Carvalho Filho 2012).

the interaction between CLLs and CSLs helped reducing the odds of children from textile households worked. Similar results hold for the children of manufacturing workers, though at much smaller magnitudes, as shown in Table 4. The children of manufacturing workers were between 4 and 3 points more likely to work depending on their sex. Progressive era legislation erased their higher likelihood to work, reducing their odds exactly by 4 and 3 points. Also in this case we do not see evidence that the interaction of CLLs and CSLs increased the likelihood children stopped working. If anything, we observe that children treated by both saw a small increase in the likelihood they were employed in any occupation.

[Table 4 about here.]

5.2.2 Child Labor Laws and Nativity

Child labor reformers worried about the plight of the children of immigrants. The children of immigrants did tend to work at higher rates than the children of American-born parents (Gratton and Moen 2004). But the concern was likely colored by Progressive-era nativism. Myron Adams (1905) of the NCLC wrote: "[A] peasant from Southern Europe... has no means of judging the harm, which may come to his boy or girl, and quite naively reckons that his little children can earn more than himself... The child of such a parent can only be protected by the law" (Gratton and Moen 2004, quoted in). Another NCLC writer in the bituminous coal region of Pennsylvania shifted between blame for immigrant parents—who "felt that they had had the little darling in their arms so long now, it must become an adult and add its efforts to ... the family in order to eke out an existence"—and sympathy—many parents spoke little English and did not understand labor regulations—in different publications, but remained troubled by second generation American children working as breaker boys at very young ages (Lovejoy 1911, 1906).[26] In 1882, the superintendent of

[26]Other NCLC investigators realized the stark regional variation in rates of child labor that also cut across nativity: "in the North and East it is chiefly the children of the foreigners that need protection. No child of American stock has been found in the sweatshops of New York City. But in the South, it is the breed of American that is threatened with degeneration" (McKelway 1906).

schools of Fall River had blamed French Canadian families for sending childing under 12 to work in that city's mills (Kleinberg 2005).

[Table 5 about here.]

In most years, we find that CLLs were more effective than CSLs in reducing native and non-native (both non-native children or parents) child labor supply (Table 5).[27] The results are strongest and most dramatic in 1900, particularly among girls. Among the children of two American-born parents, child labor law restrictions reduced the probability a covered girl worked by about 3 percentage points. The CLL effect was about one point stronger for American-born girls with one or two foreign-born parents. The effects were even larger for foreign-born girls, who were 7.9 points less likely to work when treated by a child labor law. Despite the larger bite for non-native children, it should be noted that children from non-native households were much more likely to be employed at baseline. When we compare the effect of CLLs to the average employment over the whole period we conclude that the most economically meaningful reduction happens among native female children.[28] We find a similar pattern for boys in the early decades, while in years following 1910 the effect of CLLs was less important.

We find less stark evidence on the effect of CSLs. In line with the main results, CSLs were more important in reducing child labor for boys from both native and non-native households in 1930, when the effects of CLLs had pan out. Also here, the magnitude of the coefficients is larger for foreign children, matching the higher likelihood they worked. In 1880, we find that CSLs made foreign boys more likely to be employed, which is at odds with the main findings of the paper. However, it should be noted that 1880 was the first year in which any CSL was promulgated and the variation in law exposure stems from one state, New York, where the large presence of immigrants made it much harder for the legislation to be strictly enforced.[29]

[27] We show the effect of either law in Appendix Table A.3.

[28] The effect of CLL on their labor force participation is close to 50% of baseline labor supply against 36% and 38% among non-native daughters.

[29] As our event study shows, the likelihood of working decreases further overtime after being treated at

5.2.3 Child Labor Laws Had Larger Effects for Children With Missing Parents

Households with missing fathers, were more likely to diminish child labor upon the imposition of legislation. Previous research on child labor suggests that intra-households labor supply decision had important spill-over effects on child labor (Manacorda 2006). During the Progressive Era an important household labor supply determinant was the absence of one or both parents. Households without a clear parental structure were also less likely to incur in fines foreseen by the law.

Alcoholism, World War One and later on the Great Depression had tremendous repercussions on the absence of family members, especially fathers. We document in Figure 7 that at the start of our study period, one in four girls did not have their father present in the same household. One in five boys did not have a father under the same roof. By 1930, these figures converged to a missing rate of approximately 15% for both boys and girls. Figure for mothers missing are lower across the board ranging between 14 and 6 percent over time and sex.

[Figure 7 about here.]

Was Progressive era legislation successful in reducing child labor rates among households with missing parents? Table 6 shows that households with missing fathers saw the largest reduction in the odds of working once their states regulated child labor either with CLLs or with CSLs. Legislation reduced the likelihood boys worked by 4.5 points (column 3) against a 2.7 points (column 1) reduction among boys with both parents present. We find a similar patterns among girls: CLLs and CSLs reduced female child labor by 3 points (column 3) versus 1.9 points (column 1) for households with missing dad and no missing parents respectively.

Children with a missing father were also more likely to be working than children with both parents present. Standardizing coefficient by the average employment rate, children

treatment decade. This suggests that, even if children did not fully comply initially, they did more so over time after legislation had been established for some time.

that had a missing father experienced a similar reduction to when the mother is missing or to when both parents are present. In contrast, the effect of Progressive era legislation was tiny in households with both parents missing, compared to the very high child labor rates for these households (1 in 3 children with both parents missing was working). We speculate that the presence of at least one adult decision maker was key for increasing the likelihood the legislation being applied.

[Table 6 about here.]

5.2.4 Child Labor Laws Had Larger Effects in More Populous Cities

The effects of child labor and compulsory schooling laws were strongest in the largest cities and metropolitan areas. Interestingly, there is no simple relationship between city size and child labor itself. While older children were more likely to work in the larger cities, this pattern was reversed for children aged 13. 13-year-olds, of course, are driving much of our treatment effect because the majority of law changes during this era eliminated their ability to work. We document these patterns in Figure 8.

[Figure 8 about here.]

With either CLL or CSL in effect, the relative rates of work fell for treated boys and girls not living on farms. But these effects were substantially larger in larger cities. In Figure 9, we plot the estimated effect of being treated by either CLL or CSL in our DDD design for boys or girls in three city size categories: cities with population less than 5,000, between 5,000 and 200,000, and larger than 200,000.[30] Pooling across census waves, we see that reductions of child labor in response of a Progressive era laws were larger in medium-sized cities—populations between 5,000 and 200,000—compared to smaller places, but the effects were even larger in the biggest cities for both boys and girls (Figure 9a). These differential effects of CLLs and CSLs by city size were largest in 1880, 1910 and 1930. Similarly, we show

[30] City size categories are determined by the 33th and 66th percentiles of the city size distribution in out main sample, non-farm whites.

in Figure A.3 that a similar relationship holds across metropolitan statuses, with children living in central cities much more affected by CLLs and CSLs than their counterparts outside the metro area.

[Figure 9 about here.]

We have shown that child labor laws and compulsory schooling laws reduced the number of urban children working at the turn of the century. While legislation was aimed at child labor in factories and industrial occupations, child labor in rural areas and farms was very common in this period and may have also been affected by the CLLs or CSLs. In the next section, we focus on sample of children that were not explicitly target by Progressive era reformers, rural and black child labor.

6 Conclusion

In this paper we showed that minimum working age laws and compulsory schooling laws passed during the early twentieth century contributed to end child labor in the United States. Unlike a classic literature in economics, we found that Progressive era legislation did bind and especially so for the white, urban child workers targeted by reformers. Our main difference with a previous literature that found null effects of the laws is that we leveraged millions of records from the US complete count census, limiting concerns of the statistical power of our estimates.

Using a triple difference in differences approach we documented a sizable effect of child labor rates on children from white households not involved in farming. Children subject to the laws were 5 to 7 points less likely to work. While the magnitudes were especially larger in 1900 and 1910, we found a similar impact across gender. We document heterogeneities of the main results across different socio economic dimensions of US families. We show that children from less wealthy families in urbanized areas were the most affected by the laws. The laws were also especially binding for the offspring of households working in textile and manufacturing.

Our results support the hypothesis that CLLs and CSLs caused the reduction of child labor and not vice-versa. We find that the households that reacted the most to the new legislation represented the target of US reformers. We conclude that legislation on child labor was effective during the Progressive era. Hence, state or national level legislation can be effective in regulating child labor in other context that show similar institutional backgrounds to those of the early twentieth century US.

References

Adams, Myron E. 1905. "Children in American street trades." *The ANNALS of the American Academy of Political and Social Science* 25:23–43.

Bhaskar, Venkataraman and Bishnupriya Gupta. 2012. "Parental altruism and child labor: examining the historical evidence from the United States." *Cliometrica* 6:249–266.

Brown, Martin, Jens Christiansen, and Peter Philips. 1992. "The Decline of Child Labor in the US fruit and vegetable canning industry: Law or Economics?" *Business History Review* 66:723–770.

Carter, Susan B and Richard Sutch. 1996a. "Fixing the facts: editing of the 1880 US Census of occupations with implications for long-term labor-force trends and the sociology of official statistics." *Historical Methods: A Journal of Quantitative and Interdisciplinary History* 29:5–24.

Carter, Susan B and Richard Sutch. 1996b. "Myth of the industrial scrap heap: A revisionist view of turn-of-the-century American retirement." *The Journal of Economic History* 56:5–38.

Clopper, Edward Nicholas. 1917. *Farmwork and Schools in Kentucky*, volume 5. National Child Labor Committee.

Clopper, Edward Nicholas and Lewis W Hine. 1916. "Child labor in the sugar-beet fields of Colorado." .

de Carvalho Filho, Irineu Evangelista. 2012. "Household income as a determinant of child labor and school enrollment in Brazil: Evidence from a social security reform." *Economic Development and Cultural Change* 60:399–435.

Edmonds, Eric V. 2005. "Does child labor decline with improving economic status?" *Journal of human resources* 40:77–99.

Ensign, Forest Chester. 1921. *Compulsory school attendance and child labor: A study of the historical development of regulations compelling attendance and limiting the labor of children in a selected group of states*. Athens Press.

Fagernäs, Sonja. 2014. "Papers, please! The effect of birth registration on child labor and education in early 20th century USA." *Explorations in Economic History* 52:63–92.

Folks, Gertrude. 1920. *Farm labor vs. school attendance*, volume 300. National child labor committee.

Goldin, Claudia. 1979. "Household and market production of families in a late nineteenth century American city." *Explorations in Economic History* 16:111.

Goldin, Claudia. 1981. "Family strategies and the family economy in the late nineteenth century: The role of secondary workers." *Philadelphia: Work, space, family, and group experience in the nineteenth century* pp. 277–310.

Goldin, Claudia and Lawrence F Katz. 2008. "Mass secondary schooling and the state: the role of state compulsion in the high school movement." In *Understanding long-run economic growth: Geography, institutions, and the knowledge economy*, pp. 275–310. University of Chicago Press.

Goldin, Claudia and Kenneth L. Sokoloff. 1982. "Women, Children, and Industrialization in the Early Republic: Evidence from the Manufacturing Censuses." *Journal of Economic History* 42:741–774.

Gompers, Samuel. 1906. "Organized Labor's Attitude Toward Child Labor." *The Annals of the American Academy of Political and Social Science* 27:79–83.

Gratton, Brian and Jon Moen. 2004. "Immigration, Culture, and Child Labor in the United States, 1880–1920." *Journal of Interdisciplinary History* 34:355–391.

Hindman, Hugh D. 2016. *Child Labor: an American History*. New York: Routledge.

Kleinberg, SJ. 2005. "Children's and mothers' wage labor in three Eastern US cities, 1880-1920." *Social Science History* 29:45–76.

Kline, Patrick. 2012. "The impact of juvenile curfew laws on arrests of youth and adults." *American Law and Economics Review* 14:44–67.

Landes, William M and Lewis C Solmon. 1972. "Compulsory schooling legislation: An economic analysis of law and social change in the nineteenth century." *The Journal of Economic History* 32:54–91.

Lingwall, Jeff. 2014. "An Economic History of Compulsory Attendance and Child Labor Laws in the United States, 1810-1926." *Pittsburgh: Tepper School of Business. http://tepper. cmu. edu/˜/media/files/tepper/extranet/academic% 20programs/phd/dissertations/lingwall_thesis_2014. pdf* .

Lleras-Muney, Adriana. 2002. "Were compulsory attendance and child labor laws effective? An analysis from 1915 to 1939." *The Journal of Law and Economics* 45:401–435.

Lovejoy, Owen R. 1906. "Child labor in the coal mines." *The Annals of the American Academy of Political and Social Science* 27:35–41.

Lovejoy, Owen R. 1911. "The Coal Mines of Pennsylvania." *The ANNALS of the American Academy of Political and Social Science* 38:133–138.

Manacorda, Marco. 2006. "Child labor and the labor supply of other household members: Evidence from 1920 America." *American Economic Review* 96:1788–1801.

Margo, Robert A and T Aldrich Finegan. 1996. "Compulsory Schooling Legislation and School Attendance in Turn-of-the Century America: A natural experiment approach." *Economics Letters* 1:103–110.

McKelway, A.J. 1906. "Child Labor in the Southern Cotton Mills." *The ANNALS of the American Academy of Political and Social Science* 27:1–11.

Moehling, Carolyn M. 1999. "State child labor laws and the decline of child labor." *Explorations in Economic History* 36:72–106.

Moehling, Carolyn M. 2004. "Family structure, school attendance, and child labor in the American South in 1900 and 1910." *Explorations in Economic History* 41:73–100.

Ogburn, William Fielding. 1912. *Progress and uniformity in child-labor legislation: a study in statistical measurement*. Number 121. Columbia University.

Osterman, Paul. 1979. "Education and Labor Markets at the Turn of the Century." *Politics & Society* 9:103–122.

Parker, Lewis W. 1908. "Compulsory Education, the Solution of Child Labor Problem." *The ANNALS of the American Academy of Political and Social Science* 32:40–56.

Parsons, Donald O and Claudia Goldin. 1989. "Parental altruism and self-interest: Child labor among late nineteenth-century American families." *Economic Inquiry* 27:637–659.

Ruggles, Steven, Katie Genadek, Ronald Goeken, Josiah Grover, and Matthew Sobek. 2010. *Integrated Public Use Microdata Series: Version 7.0 [dataset]*. Minneapolis, MN: Minnesota Population Center [producer and distributor].

Straughan, Dulcie Murdock. 2007. *Women's Use of Public Relations for Progressive-era Reform: Rousing the Conscience of a Nation*. Edwin Mellen Press.

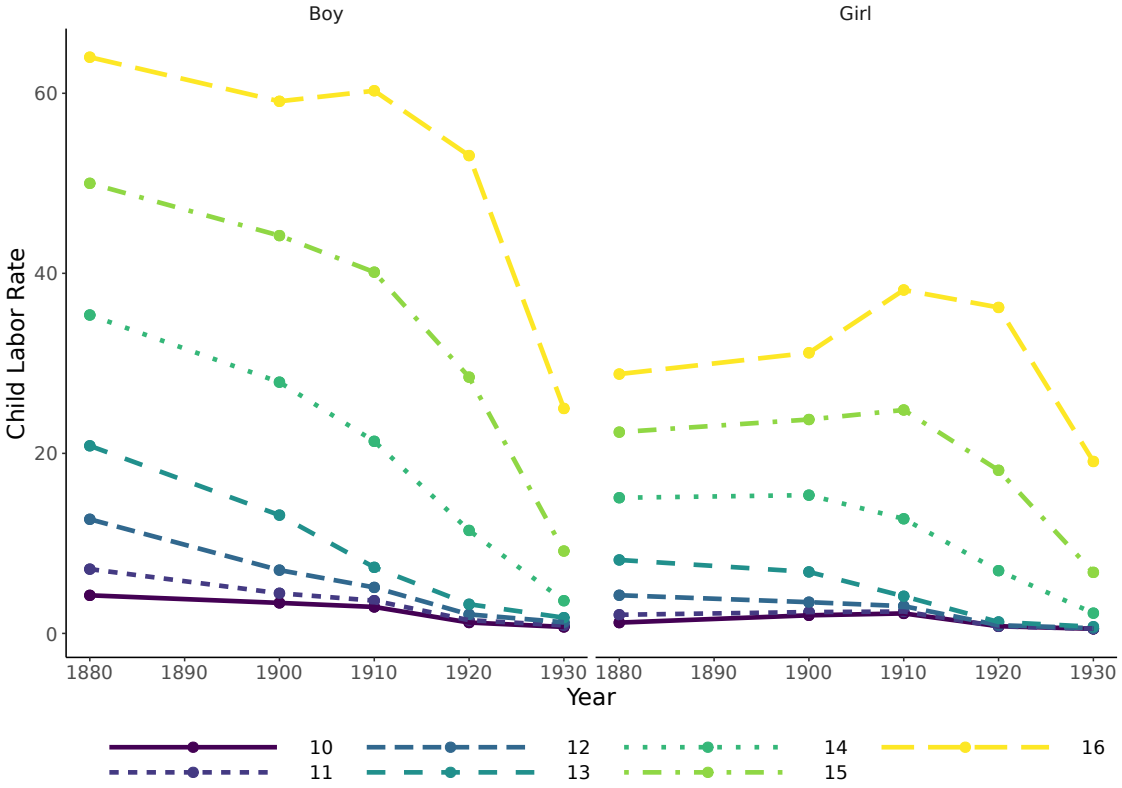
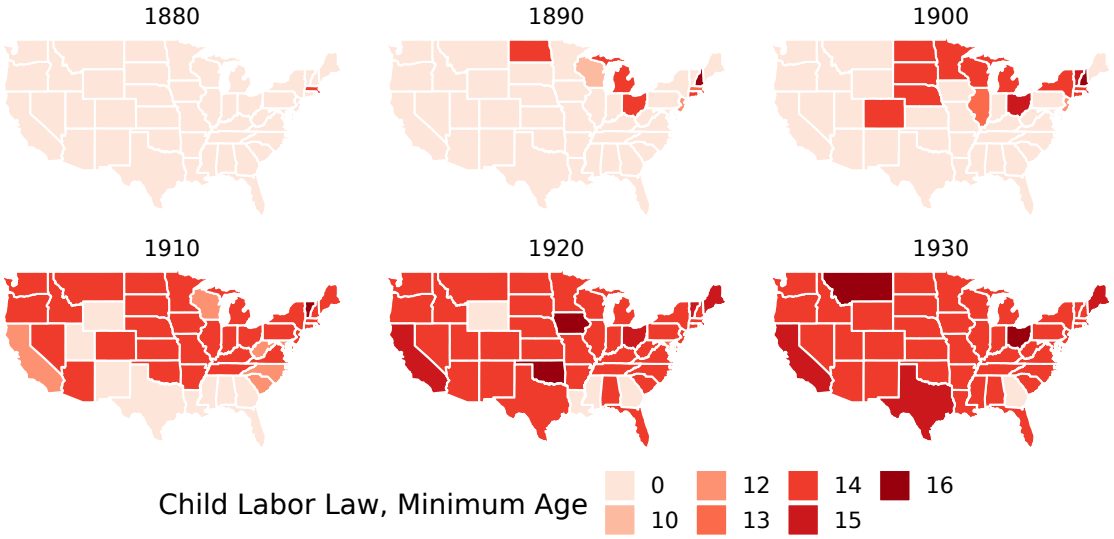
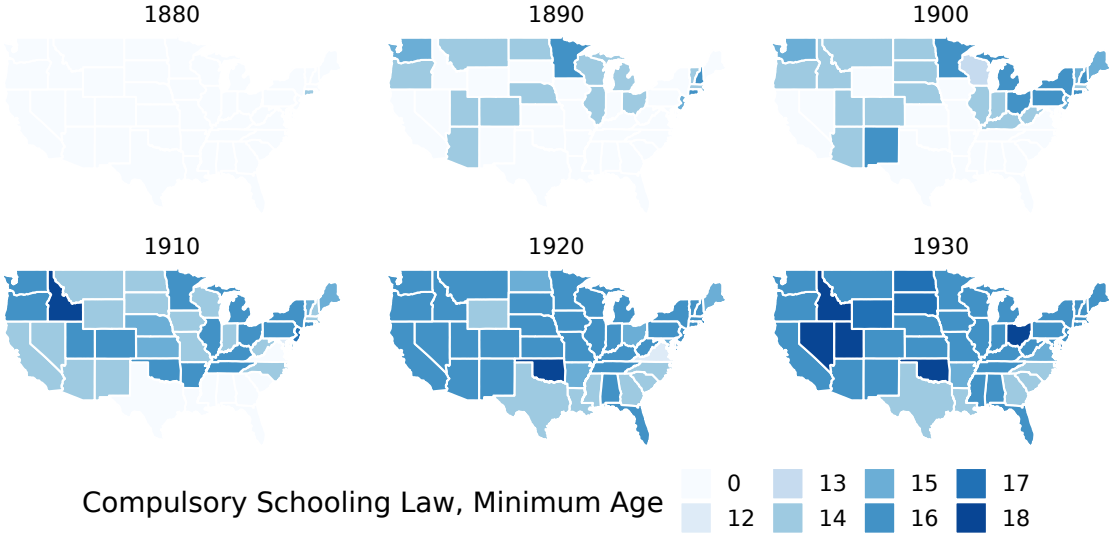


Figure 1: Child Labor Rates, 1880-1930. Rates of child labor among white children in non-farm households fell from 1880 to 1930, though the declines were much steeper for boys rather than girls. By 1910, with child labor laws restricting work for 13 year-olds in many states, almost no 13 year-olds—boys or girls—worked, while roughly one-fifth of 14 year-olds did. Large decreases in child labor from 1920 to 1930, however, were concentrated among 15 and 16 year-olds, despite rarely being covered by state child labor laws.

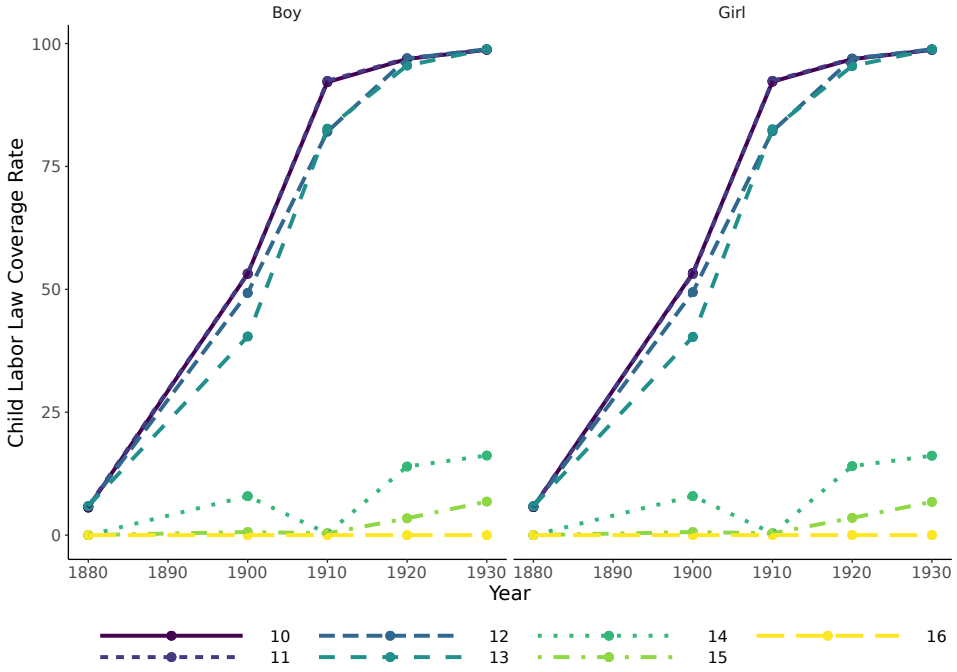


(a) Child Labor Laws

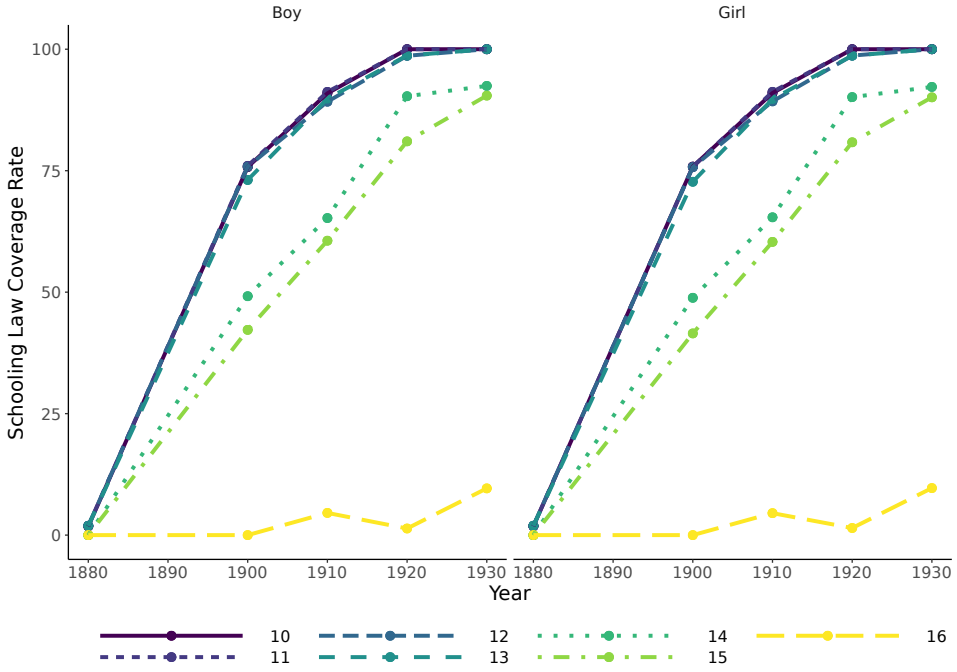


(b) Compulsory Schooling Laws

Figure 2: Progressive Era Legislation Map, 1880-1930



(a) Share of White Children Covered by Child Labor Laws



(b) Share of White Children Covered by Compulsory Schooling Laws

Figure 3: Coverage Rates of Child Labor Laws and Compulsory Schooling Laws by Age, 1880-1930. While minimum working age laws interested mostly 13 year-olds, compulsory schooling laws affected children until 15 years old.

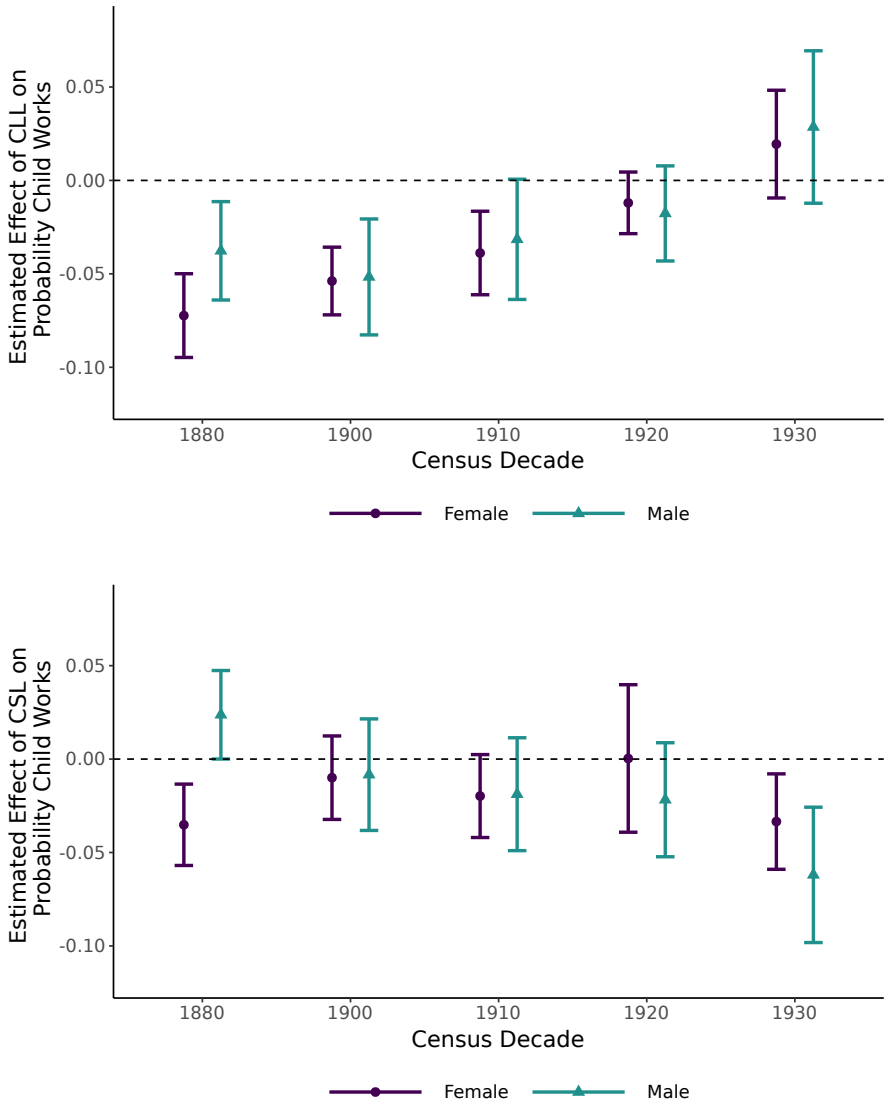


Figure 4: Effects of CLLs and CSLs on Child Labor Rates by Census Decades. Our results suggest that CLLs and CSLs were complementary in reducing child labor rates in different years. While CLLs was responsible for most of the early reduction of child labor, CSLs bite was strongest in 1930 when the effect of CLLs vanished.

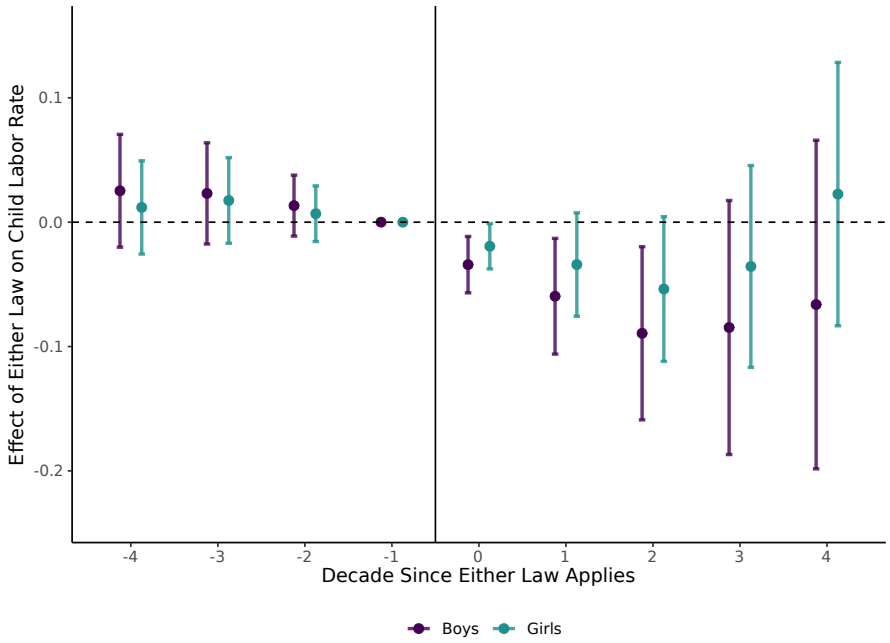


Figure 5: Event study: Effect of Either Law on Child Labor Rates. Event study suggests that treated children were not significantly less likely to work until they were treated by either CLLs or CSLs. The impact of legislation magnified over time diminishing the odds treated children worked in decades following the enactment of their state legislation.

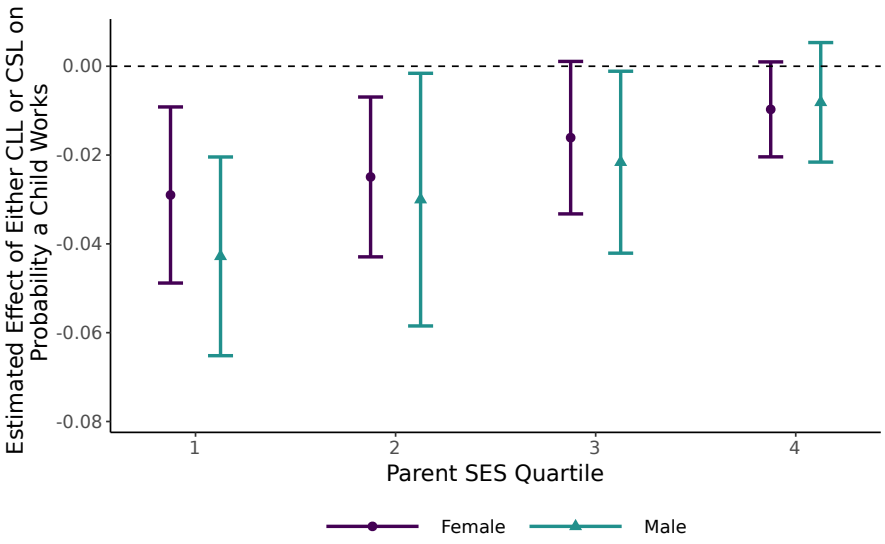


Figure 6: Effects of Either Law on Child Labor by Parents' SES. Parents' SES quartiles are calculated using parents' contemporaneous occupation scores. Quartile 1 include children with the poorest or lowest ranked parents. Treatment indicator is equal to one if child treated by either CLLs or CSLs. Our results suggest that the labor supply of children with the poorest parents responded the most to Progressive era legislations.

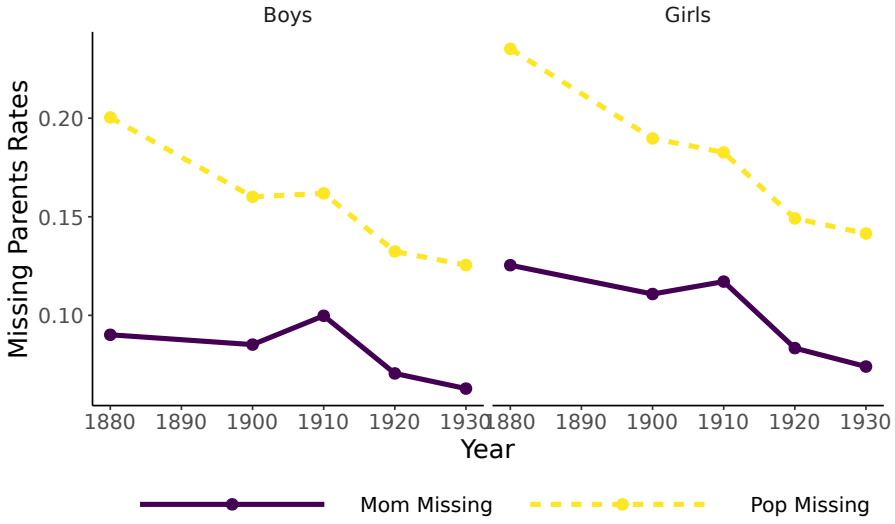
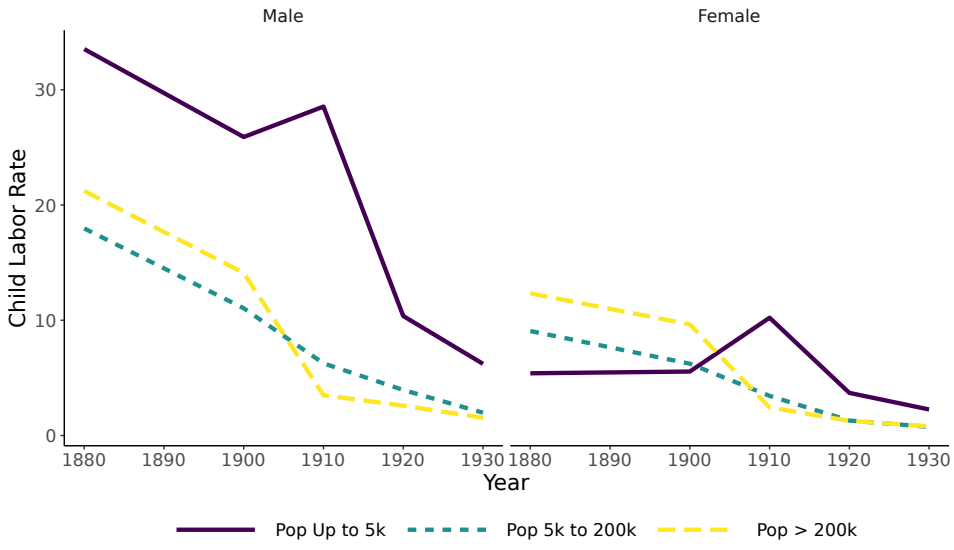
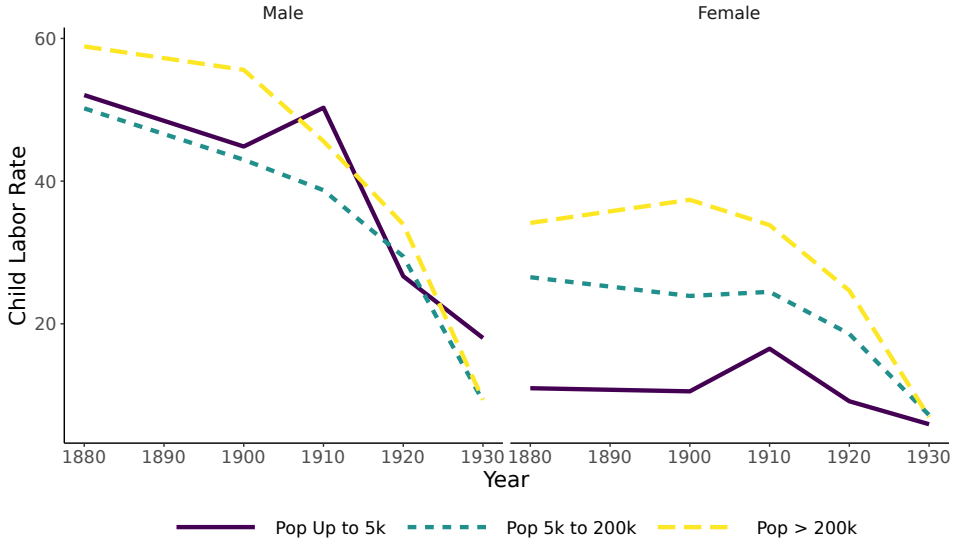


Figure 7: Rates of Missing Parents Among Non-Farm White Children Aged 10 to 16, 1880-1930.

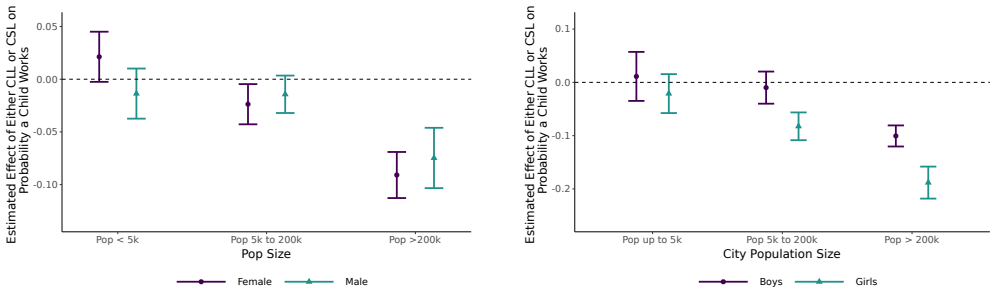


(a) Share of White Children Working, Aged 13



(b) Share of White Children Working, Aged 15

Figure 8: Rates of Child Labor by City Population Size, 1880-1930. Place population size is based on IPUMS classifications of residence. Our categorization is based on the 33th and 66th percentiles of the place population size distribution in our main sample composed by white children outside farms.

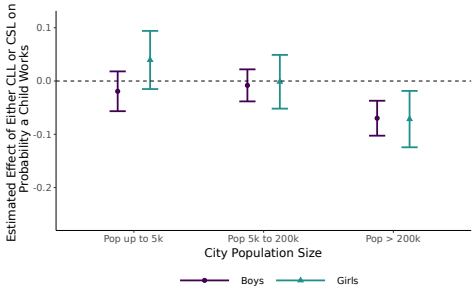


(a) Pooled Sample

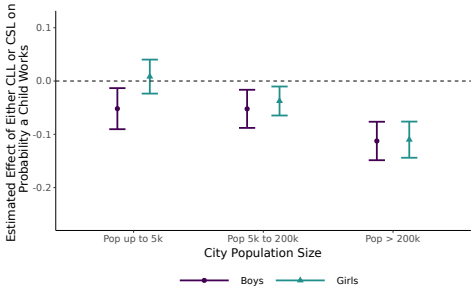
(b) 1880

(c) 1900

(d) 1910



(e) 1920



(f) 1930

Figure 9: Effects of Child Labor Laws and Compulsory Schooling Laws on Child Labor by City Population Size, 1880-1930. Treatment indicator is equal to one if child is treated by either law. Place population size is based on IPUMS classifications of residence. Our results suggest that the labor supply of children fell the most in response to CLL coverage in larger cities, especially between 1900 and 1920. In Figure A.3, we show a similar pattern depending on metropolitan status.

Table 1: Laws, Minimum Age to Work or Leave School, 1880-1930

	Number of States with Minimum Working Age Laws by Census Year					
Minimum Working Age	1880	1890	1900	1910	1920	1930
No Minimum	48	40	33	9	4	1
10		1	1			
12		1	1	6		
13		1	1		1	
14	1	4	10	33	38	42
15		1	2		4	4
16		1	1	1	2	2

	Number of States with Minimum Age To Exit School Laws by Census Year					
Min. Age To Exit School	1880	1890	1900	1910	1920	1930
No Minimum	48	30	21	8		
12				1	1	
13			1			
14	1	13	14	18	8	5
15		3	5	5	5	2
16		3	8	15	34	33

Note: We indicate the number of states with minimum age cutoff to leave school (top panel) and work (bottom panel) as of each census year. Child labor laws refer to male employment. Those are the same for female employment with four exceptions: Louisiana allowed boys to work at age 12 but restricted girls from working until age 14 in 1890 and 1900; New Jersey allowed boys to work at age 12 in 1900 but restricted girls until age 14; Washington state allowed boys to work at age 14 in 1910 but restricted girls until age 16.

Table 2: CLLs and CSLs Not Perfectly Collinear

	Covered by Child Labor Law		
	(1)	(2)	(3)
CSL	0.661***	0.264***	0.103**
	(0.024)	(0.048)	(0.051)
State FE	No	Yes	Yes
Age FE	No	Yes	Yes
Year FE	No	Yes	Yes
DDD FEs Interactions	No	Yes	Yes
Observations	15,818,495	15,818,495	15,818,495
Adjusted R^2	0.374	0.742	0.920
Mean of Outcome	0.484	0.484	0.484

Note: The sample is composed by white boys outside farms between the age of 10 and 16 years old. Outcome variable is an indicator for whether the child was covered by child labor law, treatment is an indicator for whether the child was covered by compulsory schooling law. FE P-wise Interactions refer to all the pairwise interactions of State FE, Age FE and State FE. Results for girls are showed in Appendix Table A.1.

Table 3: Either Legislation Reduce Child Labor, Non-Farm Whites

	Boys				
	(1)	(2)	(3)	(4)	(5)
CLL Applies	−0.031***		−0.029***	−0.043***	
	(0.008)		(0.008)	(0.013)	
CSL Applies		−0.027***	−0.024**	−0.025***	
		(0.010)	(0.009)	(0.009)	
CLL × CSL				0.016	
				(0.014)	
CLL *or* CSL					−0.029***
					(0.010)
DDD FEs Interactions	Yes	Yes	Yes	Yes	Yes
Location Controls	Yes	Yes	Yes	Yes	Yes
HH and Kid Controls	Yes	Yes	Yes	Yes	Yes
Observations	15,813,957	15,813,957	15,813,957	15,813,957	15,813,957
Adjusted R^2	0.301	0.301	0.301	0.301	0.301
Mean of Outcome	0.149	0.149	0.149	0.149	0.149
	Girls				
	(1)	(2)	(3)	(4)	(5)
CLL Applies	−0.034***		−0.033***	−0.049***	
	(0.007)		(0.007)	(0.016)	
CSL Applies		−0.016**	−0.013*	−0.015**	
		(0.008)	(0.007)	(0.007)	
CLL × CSL				0.018	
				(0.017)	
CLL *or* CSL					−0.021***
					(0.008)
DDD FEs Interactions	Yes	Yes	Yes	Yes	Yes
Location Controls	Yes	Yes	Yes	Yes	Yes
HH and Kid Controls	Yes	Yes	Yes	Yes	Yes
Observations	16,177,102	16,177,102	16,177,102	16,177,102	16,177,102
Adjusted R^2	0.214	0.213	0.214	0.214	0.213
Mean of Outcome	0.090	0.090	0.090	0.090	0.090

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Note: Estimated effect of CLLs and/or CSLs on the probability a child reports an occupation in the census. All regressions are implemented as linear probability models with our DDD strategy and include fixed effects for state, census year, and age, as well as all pairwise interactions of the fixed effects. We cluster standard errors at the state level. The location controls include metropolitan area and urban place dummies, as well as three indicators for size of place determined by the 33th and 66th percentile in our main sample: 0 to 4,999 people, 5,000 to 199,999, and 199,999 and above. The household and child controls include foreign-born status, number of older and younger brothers and sisters, number of children under 6 in household, and indicators for either the mother or father missing from the household. In all years but 1880, we also include home ownership. Household head controls include age and age squared, nativity, and occupation score, as well as fixed effects for occupation and industry. In all years but 1880, we include dummies for household head literacy. The sample includes all children aged 10 to 16 who are white and non-farm, which we define as children not living on a farm or whose parents are not working in agriculture. We calculate whether a CLL or CSL applies based on a child's state of residence and age, as well as the prevailing minimum age of employment law at the time.

Table 4: Children from Manufacturing and Textile Households Reduced Employment Under Progressive Era Legislation

	Male		Female	
	(1)	(2)	(3)	(4)
CLL	−0.033***		−0.036**	
	(0.012)		(0.014)	
CSL	−0.019**		−0.008	
	(0.009)		(0.006)	
Textile	0.160***	0.159***	0.224***	0.224***
	(0.031)	(0.031)	(0.033)	(0.033)
Manufacturing	0.040***	0.040***	0.028***	0.028***
	(0.005)	(0.005)	(0.003)	(0.003)
CLL × CSL	0.012		0.011	
	(0.013)		(0.016)	
CLL × Textile	−0.066		−0.160***	
	(0.044)		(0.044)	
CSL × Textile	−0.106***		−0.150***	
	(0.025)		(0.029)	
CLL × Manufacturing	−0.047***		−0.043***	
	(0.004)		(0.005)	
CSL × Manufacturing	−0.022***		−0.012***	
	(0.003)		(0.003)	
CLL × CSL × Textile	−0.001		0.078*	
	(0.045)		(0.047)	
CLL × CSL × Manufacturing	0.022***		0.019***	
	(0.004)		(0.004)	
CLL *or* CSL		−0.018*		−0.010
		(0.010)		(0.007)
CLL *or* CSL × Textile		−0.150***		−0.206***
		(0.029)		(0.030)
CLL *or* CSL × Manufacturing		−0.040***		−0.029***
		(0.004)		(0.004)
DDD FEs Interactions	Yes	Yes	Yes	Yes
Location Controls	Yes	Yes	Yes	Yes
HH and Kid Controls	Yes	Yes	Yes	Yes
Observations	15,813,957	15,813,957	16,177,102	16,177,102
Adjusted R^2	0.304	0.303	0.220	0.219
Mean of Outcome	0.149	0.149	0.090	0.090

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Note: Estimated effect of CLLs and/or CSLs on the probability a child reports an occupation in the census interacted with parent industry. All regressions are implemented as linear probability models with our DDD strategy and include fixed effects for state, census year, and age, as well as all pairwise interactions of the fixed effects. We cluster standard errors at the state level. The location controls include metropolitan area and urban place dummies, as well as three indicators for size of place determined by the 33th and 66th percentile in our main sample: 0 to 4,999 people, 5,000 to 199,999, and 199,999 and above. The household and child controls include foreign-born status, number of older and younger brothers and sisters, number of children under 6 in household, and indicators for either the mother or father missing from the household. In all years but 1880, we also include home ownership. Household head controls include age and age squared, nativity, and occupation score, as well as fixed effects for occupation and industry. In all years but 1880, we include dummies for household head literacy. The sample includes all children aged 10 to 16 who are white and non-farm, which we define as children not living on a farm or whose parents are not working in agriculture. We calculate whether a CLL or CSL applies based on a child's state of residence and age, as well as the prevailing minimum age of employment law at the time.

Table 5: Progressive Era Legislation: Heterogeneity by Nativity Status

	Top Panel: CLLs					
	Male			Female		
	Parents AB	Parent FB	Child FB	Parents AB	Parent FB	Child FB
	(1)	(2)	(3)	(4)	(5)	(6)
CLL × 1880	−0.011*	−0.017	−0.020	−0.018***	−0.084***	−0.104***
	(0.006)	(0.017)	(0.028)	(0.005)	(0.017)	(0.017)
CLL × 1900	−0.034*	−0.034**	−0.068***	−0.030**	−0.044***	−0.079***
	(0.018)	(0.015)	(0.015)	(0.012)	(0.008)	(0.014)
CLL × 1910	−0.032**	−0.024	−0.012	−0.034***	−0.024*	−0.059**
	(0.015)	(0.016)	(0.024)	(0.011)	(0.014)	(0.023)
CLL × 1920	−0.011	−0.029	−0.040	−0.008	−0.018	−0.015
	(0.009)	(0.027)	(0.025)	(0.005)	(0.016)	(0.016)
CLL × 1930	0.022	0.0001	−0.004	0.018*	0.0005	−0.003
	(0.018)	(0.027)	(0.028)	(0.010)	(0.021)	(0.026)
DDD FEs Interactions	Yes	Yes	Yes	Yes	Yes	Yes
Location and HH Controls	Yes	Yes	Yes	Yes	Yes	Yes
Observations	9,185,612	5,759,860	868,485	9,434,919	5,845,978	896,205
Adjusted R^2	0.238	0.346	0.399	0.132	0.242	0.324
Mean of Outcome	0.132	0.157	0.275	0.065	0.111	0.216
	Bottom Panel: CSLs					
	Male			Female		
	Parents AB	Parent FB	Child FB	Parents AB	Parent FB	Child FB
	(1)	(2)	(3)	(4)	(5)	(6)
CSL × 1880	−0.014***	0.023	0.106***	−0.010**	−0.072***	0.005
	(0.005)	(0.015)	(0.024)	(0.005)	(0.017)	(0.016)
CSL × 1900	−0.013	0.014	0.013	−0.009	0.009	0.011
	(0.013)	(0.020)	(0.017)	(0.008)	(0.013)	(0.017)
CSL × 1910	−0.024*	−0.016	−0.048*	−0.017**	−0.016	−0.030
	(0.013)	(0.020)	(0.026)	(0.007)	(0.013)	(0.020)
CSL × 1920	−0.024**	0.006	−0.016	−0.004	0.055	0.005
	(0.010)	(0.024)	(0.054)	(0.011)	(0.037)	(0.056)
CSL × 1930	−0.041**	−0.077***	−0.095***	−0.022**	−0.032	−0.068
	(0.021)	(0.027)	(0.022)	(0.011)	(0.021)	(0.044)
DDD FEs Interactions	Yes	Yes	Yes	Yes	Yes	Yes
Location and HH Controls	Yes	Yes	Yes	Yes	Yes	Yes
Observations	9,185,612	5,759,860	868,485	9,434,919	5,845,978	896,205
Adjusted R^2	0.238	0.346	0.399	0.132	0.241	0.323
Mean of Outcome	0.132	0.157	0.275	0.065	0.111	0.216

Note: Estimated effect of Child Labor Laws and Compulsory Schooling Laws on the probability a child reports an occupation in the census. The Parents AB column includes only children with two American-born parents (all children in are American-born as well). The Parents FB column includes children with one or two foreign-born parents (but who are themselves American-born). The Child FB column includes children born abroad and with two foreign-born parents. All regressions are implemented as linear probability models with our DDD strategy and include fixed effects for state, year, and age, as well as all pairwise interactions of the fixed effects. We cluster standard errors at the state level. The location controls include metropolitan area and urban place dummies, as well as three indicators for size of place determined by the 33th and 66th percentile in our main sample: 0 to 4,999 people, 5,000 to 199,999, and 199,999 and above. The household and child controls include number of older and younger brothers and sisters, number of children under 6 in household, and indicators for either the mother or father missing from the household. In 1900 and 1910 we also include home ownership. Household head controls include age and age squared and occupation score, as well as fixed effects for occupation and industry. In 1900 and 1910, we include dummies for household head literacy. The sample includes all children aged 10 to 16 who are white and non-farm, which we define as children not living on a farm and whose parents are not working in agriculture. We calculate whether a CLL or CSL applies based on a child's state of residence and age, as well as the prevailing minimum age of employment law at the time.

Table 6: Children With Missing Parents reduce ...

	Boys			
	Both Present	Mom Missing	Dad Missing	Both Missing
	(1)	(2)	(3)	(4)
CLL or CSL	−0.027***	−0.037***	−0.045***	−0.039***
	(0.010)	(0.012)	(0.012)	(0.010)
DDD FEs Interactions	Yes	Yes	Yes	Yes
Location Controls	No	No	No	No
HH and Kid Controls	No	No	No	No
Observations	12,910,170	585,845	1,674,749	647,731
Adjusted R^2	0.268	0.277	0.311	0.319
Mean of Outcome	0.129	0.178	0.236	0.305
	Girls			
	Both Present	Mom Missing	Dad Missing	Both Missing
	(1)	(2)	(3)	(4)
CLL or CSL	−0.019**	−0.015**	−0.030***	−0.023**
	(0.007)	(0.007)	(0.011)	(0.009)
DDD FEs Interactions	Yes	Yes	Yes	Yes
Location Controls	No	No	No	No
HH and Kid Controls	No	No	No	No
Observations	12,892,036	568,841	1,743,736	977,295
Adjusted R^2	0.179	0.133	0.214	0.207
Mean of Outcome	0.072	0.081	0.130	0.253

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Note: Estimated effect of CLLs or CSLs on the probability a child reports an occupation in the census by whether mom or dad or both are missing. All regressions are implemented as linear probability models with our DDD strategy and include fixed effects for state, census year, and age, as well as all pairwise interactions of the fixed effects. We cluster standard errors at the state level. The location controls include metropolitan area and urban place dummies, as well as three indicators for size of place determined by the 33th and 66th percentile in our main sample: 0 to 4,999 people, 5,000 to 199,999, and 199,999 and above. The household and child controls include foreign-born status, number of older and younger brothers and sisters, number of children under 6 in household, and indicators for either the mother or father missing from the household. In all years but 1880, we also include home ownership. Household head controls include age and age squared, nativity, and occupation score, as well as fixed effects for occupation and industry. In all years but 1880, we include dummies for household head literacy. The sample includes all children aged 10 to 16 who are white and non-farm. We define non-farm children as children not living on a farm or whose parents are not working in agriculture. We calculate whether a CLL or CSL applies based on a child's state of residence and age, as well as the prevailing minimum age of employment law at the time.

A Appendix

A.1 Child Labor Rate Trends

[Figure 10 about here.]

[Figure 11 about here.]

A.2 Additional Figures and Tables

[Table 7 about here.]

[Table 8 about here.]

[Table 9 about here.]

[Figure 12 about here.]

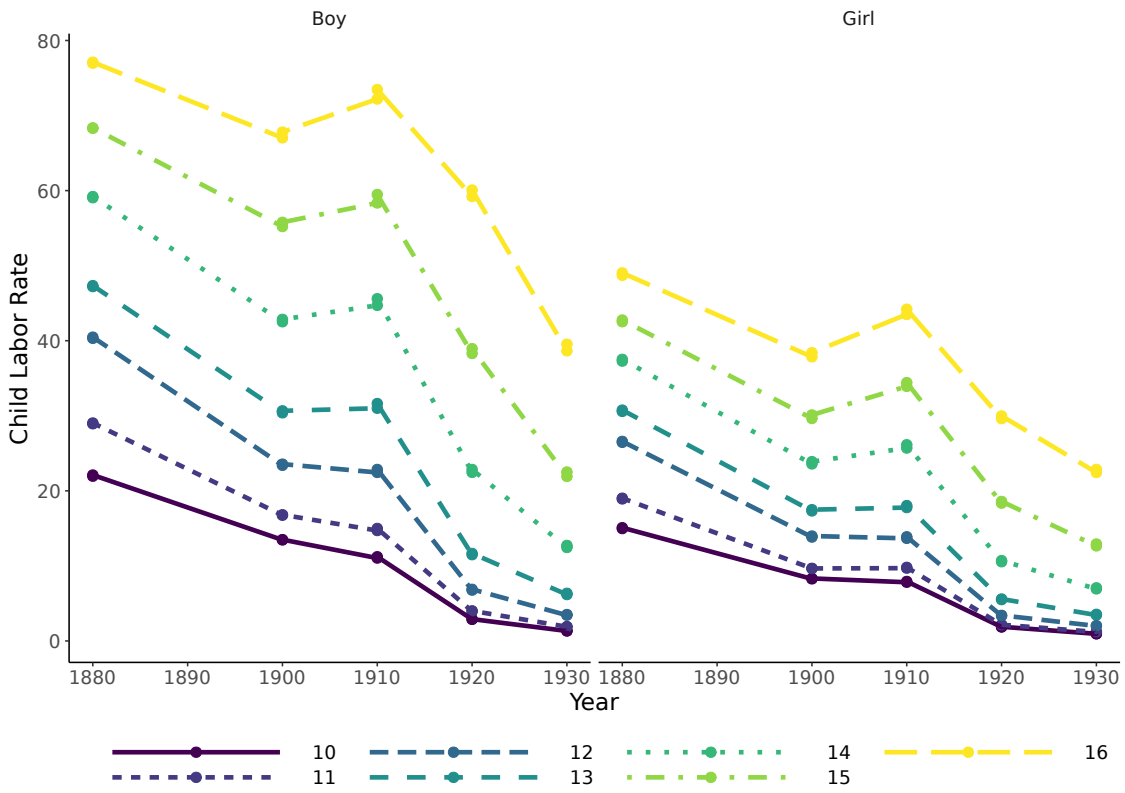


Figure A.1: Child Labor Rates Among Non-Whites in Non-Farm Households, 1880-1930. Rates of child labor among non-white children in non-farm households fell from 1880 to 1900 before plateauing for most ages from 1900 to 1910. After 1910, rates fell for both boys and girls. Though child labor rates are higher for boys than girls, children of both sexes worked at relatively high rates compared to white children in non-farm households.

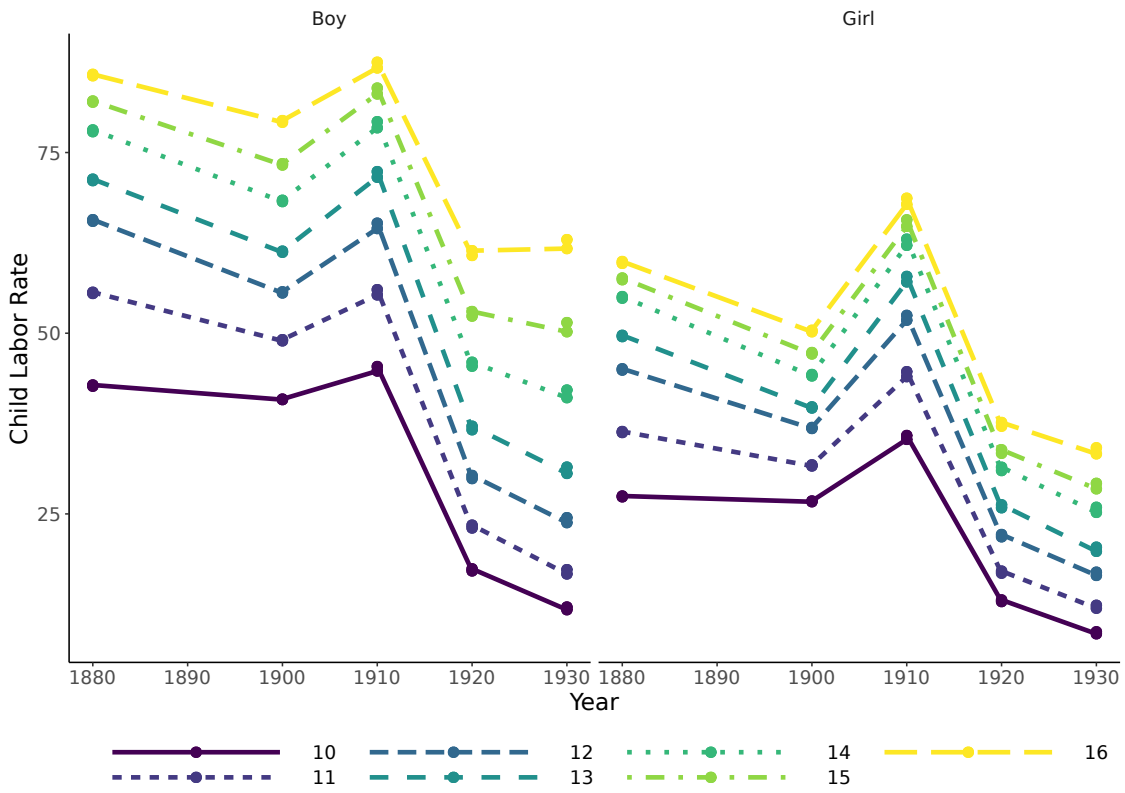
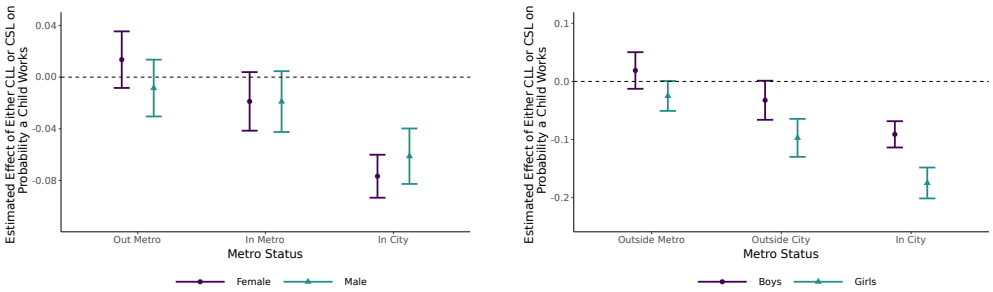
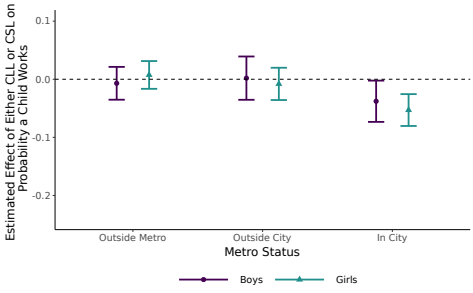


Figure A.2: Child Labor Rates Among Non-Whites in Farm Households, 1880-1930. Rates of child labor among non-white children in farm households were extremely high, compared to both white children or non-white children in non-farm households. Though rates fell for both boys and girls from 1880 to 1930, older boys and girls still worked at very high rates in 1920 and 1930, including more 30% of 13 year old nonwhite boys and nearly 20% of 13 year old nonwhite girls.

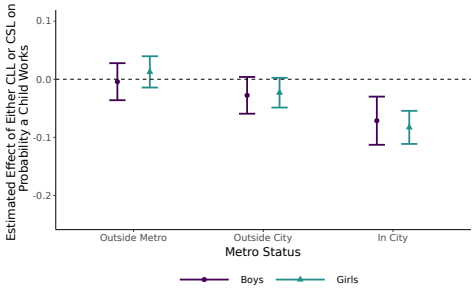


(a) Pooled Sample

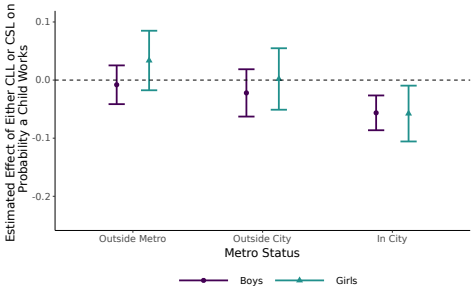
(b) 1880



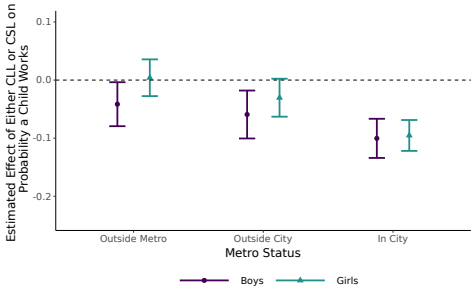
(c) 1900



(d) 1910



(e) 1920



(f) 1930

Figure A.3: Effects of Child Labor Laws or Compulsory Schooling Laws on Child Labor by Metro Size, 1880-1930. Treatment indicator is equal to one if child is treated by either law. Metro size is based on IPUMS classifications of residence. Our results suggest that the labor supply of children fell the most in response to law coverage in larger cities.

Table A.1: CLLs and CSLs Not Perfectly Collinear

	Covered by Child Labor Law		
	(1)	(2)	(3)
CSL	0.659***	0.266***	0.105**
	(0.023)	(0.048)	(0.052)
State FE	No	Yes	Yes
Age FE	No	Yes	Yes
Year FE	No	Yes	Yes
FE P-wise Interactions	No	Yes	Yes
Observations	16,181,908	16,181,908	16,181,908
Adjusted R^2	0.376	0.741	0.920
Mean of Outcome	0.476	0.476	0.476

Note: The sample is composed by white girls outside farms between the age of 10 and 16 years old. Outcome variable is an indicator for whether the child was covered by child labor law, treatment is an indicator for whether the child was covered by compulsory schooling law. FE P-wise Interactions refer to all the pairwise interactions of State FE, Age FE and State FE.

Table A.2: Either Legislation Reduce Child Labor, Non-Farm Urban Whites

	Boys				
	(1)	(2)	(3)	(4)	(5)
CLL Applies	−0.031***		−0.029***	−0.025	
	(0.009)		(0.008)	(0.019)	
CSL Applies		−0.026**	−0.023**	−0.023**	
		(0.011)	(0.010)	(0.010)	
CLL × CSL				−0.004	
				(0.019)	
CLL *or* CSL					−0.026**
					(0.011)
DDD FEs Interactions	Yes	Yes	Yes	Yes	Yes
Location Controls	Yes	Yes	Yes	Yes	Yes
HH and Kid Controls	Yes	Yes	Yes	Yes	Yes
Observations	10,958,497	10,958,497	10,958,497	10,958,497	10,958,497
Adjusted R^2	0.309	0.309	0.309	0.309	0.309
Mean of Outcome	0.147	0.147	0.147	0.147	0.147
	Girls				
	(1)	(2)	(3)	(4)	(5)
CLL Applies	−0.034***		−0.033***	−0.039***	
	(0.007)		(0.007)	(0.011)	
CSL Applies		−0.015	−0.011	−0.012	
		(0.009)	(0.008)	(0.008)	
CLL × CSL				0.007	
				(0.014)	
CLL *or* CSL					−0.017*
					(0.009)
DDD FEs Interactions	Yes	Yes	Yes	Yes	Yes
Location Controls	Yes	Yes	Yes	Yes	Yes
HH and Kid Controls	Yes	Yes	Yes	Yes	Yes
Observations	11,214,106	11,214,106	11,214,106	11,214,106	11,214,106
Adjusted R^2	0.219	0.219	0.219	0.219	0.219
Mean of Outcome	0.100	0.100	0.100	0.100	0.100

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Note: Estimated effect of CLLs and/or CSLs on the probability a child reports an occupation in the census. All regressions are implemented as linear probability models with our DDD strategy and include fixed effects for state, census year, and age, as well as all pairwise interactions of the fixed effects. We cluster standard errors at the state level. The location controls include metropolitan area and urban place dummies, as well as three indicators for size of place determined by the 33th and 66th percentile in our main sample: 0 to 4,999 people, 5,000 to 199,999, and 199,999 and above. The household and child controls include foreign-born status, number of older and younger brothers and sisters, number of children under 6 in household, and indicators for either the mother or father missing from the household. In all years but 1880, we also include home ownership. Household head controls include age and age squared, nativity, and occupation score, as well as fixed effects for occupation and industry. In all years but 1880, we include dummies for household head literacy. The sample includes all children aged 10 to 16 who are white and non-farm and living in urban areas. We define non-farm children as children not living on a farm or whose parents are not working in agriculture. We calculate whether a CLL or CSL applies based on a child's state of residence and age, as well as the prevailing minimum age of employment law at the time.

Table A.3: Progressive Era Legislation: Heterogeneity by Nativity Status, Either Law Treatment

	Male			Female		
	Parents AB	Parent FB	Child FB	Parents AB	Parent FB	Child FB
	(1)	(2)	(3)	(4)	(5)	(6)
Either Law × 1880	−0.011*	−0.005	0.012	−0.016***	−0.083***	−0.078***
	(0.006)	(0.019)	(0.036)	(0.006)	(0.018)	(0.026)
Either Law × 1900	−0.015	0.011	0.011	−0.010	0.006	0.006
	(0.013)	(0.020)	(0.018)	(0.008)	(0.013)	(0.018)
Either Law × 1910	−0.030**	−0.016	−0.049*	−0.023**	−0.018	−0.035*
	(0.014)	(0.019)	(0.025)	(0.009)	(0.013)	(0.019)
Either Law × 1920	−0.027***	0.009	−0.011	−0.005	0.058	0.009
	(0.008)	(0.023)	(0.049)	(0.012)	(0.037)	(0.052)
Either Law × 1930	−0.044**	−0.078***	−0.109***	−0.023*	−0.030	−0.078
	(0.022)	(0.029)	(0.025)	(0.012)	(0.021)	(0.050)
DDD FEs Interactions	Yes	Yes	Yes	Yes	Yes	Yes
Location and HH Controls	Yes	Yes	Yes	Yes	Yes	Yes
Observations	9,185,612	5,759,860	868,485	9,434,919	5,845,978	896,205
Adjusted R^2	0.238	0.346	0.399	0.132	0.242	0.323
Mean of Outcome	0.132	0.157	0.275	0.065	0.111	0.216

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Note: Estimated effect of Child Labor Laws or Compulsory Schooling Laws on the probability a child reports an occupation in the census. Treatment indicator equal one if child is treated by CLLs or CSLs. The Parents AB column includes only children with two American-born parents (all children in are American-born as well). The Parents FB column includes children with one or two foreign-born parents (but who are themselves American-born). The Child FB column includes children born abroad and with two foreign-born parents. All regressions are implemented as linear probability models with our DDD strategy and include fixed effects for state, year, and age, as well as all pairwise interactions of the fixed effects. We cluster standard errors at the state level. The location controls include metropolitan area and urban place dummies, as well as three indicators for size of place determined by the 33th and 66th percentile in our main sample: 0 to 4,999 people, 5,000 to 199,999, and 199,999 and above. The household and child controls include number of older and younger brothers and sisters, number of children under 6 in household, and indicators for either the mother or father missing from the household. In 1900 and 1910 we also include home ownership. Household head controls include age and age squared and occupation score, as well as fixed effects for occupation and industry. In 1900 and 1910, we include dummies for household head literacy. The sample includes all children aged 10 to 16 who are white and non-farm, which we define as children not living on a farm and whose parents are not working in agriculture. We calculate whether a CLL or CSL applies based on a child's state of residence and age, as well as the prevailing minimum age of employment law at the time.