HUMAN CAPITAL ACCUMULATION AND THE EXPANSION OF WOMEN'S ECONOMIC RIGHTS

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Abstract

Between 1850 and 1920 most U.S. states enacted laws expanding the rights of married women to own and control their separate property and to own their market earnings. The economic approach to property rights implies that as married women gain economic rights the incentive to invest in girls' human capital will rise. This prediction is tested by examining the impact of these legal changes on girls' school attendance rates relative to boys'. State-level census data are used to examine the effects of these changes on school attendance among all school-aged children. IPUMS data are used to examine their effect on school attendance among children from ages 15 to 19, who are just beyond compulsory schooling age limits. Consistent with hypothesized effects, the empirical analysis shows that expanding women's economic rights resulted in higher relative rates of school attendance by girls, and had the largest effect in the 15 to19 age group.

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1. Introduction

The relationship between legal institutions, property rights, and economic activity is of growing interest to scholars. A substantial literature argues that secure property rights – and the legal institutions protecting those rights – strengthen incentives for investment and lead to higher economic growth.[1] One of the most dramatic and potentially important dimensions of legal and institutional change is women's economic status as determined by the property rights they hold. Those include women's right to own and control property, to enter into legally binding contracts, to litigate, to own and operate businesses, and to own market earnings. We refer to these as "economic rights" to distinguish them from women's political rights such as suffrage and the right to hold office. Numerous scholars in law and history have commented on the substantial change in married women's economic status that occurred in many countries in the late 19th and early 20th centuries as a result of changes in women's economic rights (e.g., Chused 1983, Hamilton 1999, Siegel 1994a, 1994b).

Using the United States between 1850 and 1920 as an historical laboratory, we examine the effect of expansions in married women's economic rights on incentives to invest in the human capital of girls and young women. Human capital is important because it increases women's productivity in both the home and in the labor market while enhancing their incentive to invent and innovate (Goldin 2005, Khan 1996). General education is also critical for sound decision making in a democracy, and for facilitating economic growth (Hanushek and Woessmann 2007). More specifically, Goldin (2006) emphasizes the importance of human capital acquisition in allowing women to move from mostly piece work and domestic or laundry labor into clerical

[1] Recent important studies include Glaeser, La Porta, Lopez-De-Silanes, and Shleifer 2004, La Porta, Lopez-De-Silanes, Shleifer, and Vishney 2002, Acemoglu, Johnson, and Robinson 2001, Knack and Keefer 1995, North 1990, Barro 1991, Scully 1988, de Soto 1989, Bohn and Deacon 2000, Besley 1995, Libecap and Lueck 2011.

positions in the early 20th century.[2] She stresses that an important underpinning of this transition to higher quality jobs was the greatly increased supply of female high school graduates.[3] Goldin also notes the complementary and mostly exogenous factors that led to this increased supply of female high school graduates, but she does not consider the expansion of women's economic rights. Our analysis suggests that laws granting women economic rights were important in increasing the human capital of high-school-aged females.

The United States in the late 19th and early 20th centuries provides an excellent setting for examining the effect of economic rights reforms on women's human capital investments. First, there were large changes in women's legal status over this period. At the time of the American Revolution women had very few rights compared to men. The doctrine of *coverture*, under which a married woman lived under her husband's legal "cover," restricted women's choices in virtually all aspects of their lives. Indeed, a married woman – a *feme covert* – could not make contracts, buy or sell property, sue or be sued, own her market earnings, or draft wills.[4] Beginning in 1848 individual U.S. states passed laws that granted married women greatly expanded economic rights, including the right to own and control property and the right to control market earnings.[5] Legal scholars have recognized that these two changes represent a major shift in legal doctrine, and some have characterized the laws as constituting the "demise of coverture" (Hoff 1991, p. 87, Shammas 1994, p. 16).

A second benefit of the U.S. research setting is the relatively compressed time frame in which these changes took place. Between 1848 and 1920 all but eight U.S. states passed laws

[2] Goldin (2006, pp. 3-5) characterizes this as a move from Phase I to Phase II of women's involvement in the labor force.
[3] Goldin (1996, p. 5) states that "Both the increased demand for clerical workers and the increased supply of high school graduates meant that, prior to marriage, young women entered nicer, cleaner, shorter-hour, and thus more 'respectable' jobs."
[4] Similar legal disabilities, although in modified form, existed in community property states, as discussed below.
[5] As implied above we use the terms "property rights" or "economic rights" to distinguish these rights from political rights such as the right to vote, hold office, and serve on a jury.

expanding married women's rights to both property and earnings.[6] The effective demise of coverture in the United States was thus realized in decades rather than centuries, which reduces confounding influences that may occur over time. A third and final advantage of this research setting is that legislative change occurred at the state rather than the federal level, providing 48 different legislative venues for our analysis.[7] Differences across states in the timing of legislation allow us to identify the effects of changes in women's property laws.

Although empirical study is limited, scholars in both law and economics have examined changes in women's economic rights.[8] Legal scholars have examined women's property legislation in detail, typically focusing on the meaning and interpretation of a particular state law (e.g., Basch 1982, Lazarou 1980, Salmon 1982). Economists have focused on the fundamental forces driving changes in married women's property rights in a state (e.g., Geddes and Lueck 2002, Doepke and Tertilt 2009, Fernandez 2010).

Disagreement about the likely impact of women's economic rights remains. Some historians and legal scholars emphasize that courts interpreted legislation conservatively, and argue that coverture was more durable than statutory changes suggest (e.g., Basch 1979, VanBurkleo 2001). Most empirical analysis has focused on the effect of granting women rights to own and control property – the Married Woman's Property Acts (MWPAs) – on women's property holding, and these findings are also mixed. For example, research on will-making in

[6] Those states are Alabama, Arizona, Florida, Louisiana, New Mexico, North Dakota, Oklahoma, and South Dakota. Notably, each of those states passed one (in six cases, the property act) of the two acts studied here prior to 1920.

[7] We omit Alaska and Hawaii due to lack of data for this period.

[8] Along with dramatic changes in women's legal status during the late 19th and early 20th centuries there were also important changes in American culture and women's role in that culture. These changes have been examined by both legal scholars and historians (e.g., Chused 1983, McMahon 1912, Siegel 1994a, 1994b). We recognize the divergence between economic rights and purely legal rights arises because enforcement costs limit the application of legal doctrine (Barzel 1977, 1997). We also recognize that norms sometimes come closer to defining economic rights because they implicitly recognize actual enforcement costs (Posner 1997), and many scholars (e.g., Becker 1991, Cheung 1972, Ellickson 1991, Posner 1997) have noted the importance of culture and custom in defining rights. For this study we focus on areas where legal rules (e.g., the doctrine of coverture) and norms are unlikely to differ persistently and significantly.

rural Canada finds no improvement and a possible reduction in that activity around the time of legal changes (Cohen 1988). However, analysis of the effects of the British Married Women's Property Act of 1870 finds that it caused women to shift their wealth into forms of property that they could legally control during marriage (Combs 2004, 2005).[9] Khan (1996) has studied the impact of U.S. legal changes on women's patent holding, and finds an increase after passage of property rights statutes. Roberts (2007) examines the effects of expansions of women's economic rights on labor markets in the United States and finds little effect on female labor force participation during the period 1870-1900.

We examine the impact of changes in married women's economic rights on the human capital investments that parents make in their daughters. Our estimates emphasize the effects of the changes on school attendance among young women ages 15 to 19, who are just beyond compulsory schooling age limits. The remainder of the paper is organized as follows. We first discuss the history of women's economic rights with emphasis on the latter half of the 19th and early 20th centuries. We then rely on the economic literatures on property rights and family economics to argue that increased economic rights for married women will enhance incentives to invest in girls' human capital. We follow with an empirical analysis of the effects of changes in economic rights on human capital investments in girls and young women. We use state-level data obtained from census summaries and state-level data aggregated from the IPUMS census datasets from 1850 to 1920.[10] Consistent with hypothesized effects, the empirical analysis shows that expanding women's economic rights resulted in higher relative rates of school attendance by girls, and had the largest effect in the 15 to19 age group.

[9] Also see Shammas (1994) who finds that the married women's property acts affected women's property ownership.

[10] Census summaries include the decennial census compendia for various census years, as well as *Historical Statistics of the Untied States: Colonial Times to 1970* (U.S. Government Printing Office: Washington, D.C.) 1975. For additional information on the state-level data, see Geddes and Lueck (2000).

2. The History and Economics of the Expansion of Women's Economic Rights

Married women's property acts ('property acts') granted married women the right to own and control real and personal property. Married women's earnings acts ('earnings acts') granted married women the right to own their earnings from work outside the home. To appreciate the connection between legal regimes and human capital investment we consider the history of women's economic rights in the United States, and link those changes to economic models of human capital investment and schooling.

2.1. Some History of Women's Economic Rights

Under the English common law system of *coverture*, which applied in the majority of U.S. states prior to the acts, the property that a wife owned prior to marriage (a so-called *feme sole*) came under the control of the husband during marriage.[11] Therefore upon marriage a woman relinquished control over her personal property – which included movable property such as livestock, furniture, stocks and money – to her husband. The husband was permitted to dispose of it at any time, and could even will it away at death (Shammas, Salmon, and Dahlin 1987, p. 3). A series of state statutes weakened this legal doctrine in the United States over time.

The first type, known as debt statutes, granted a married woman a separate estate insulated from her husband's debts, but did not grant her the right to manage and control that estate.[12] Debt statutes are not property acts under our definition. We define married women's property acts as those that went further and granted the wife the ability to manage and control her

[11] As stated by Blackstone (1775-1779, Book II, Chapter 29): " . . . the very being and existence of the woman is suspended during coverture, or entirely merged and incorporated in that of the husband. And hence it follows, that whatever personal property belonged to the wife, before marriage, is by marriage absolutely vested in the husband."

[12] An example is from the Acts of Alabama, 1846, No. 20 (p. 25), which states: Sec. 6. *And be it further enacted*, That the property of the wife at the time of the marriage, or which she may receive by descent, bequest, or gift, shall not be subject to the debts or liabilities of the husband, contracted or incurred before the marriage; nor shall the husband be liable to pay the antenuptial contracts or liabilities of the wife, further than the property received by the wife; but such property received by the wife, shall be liable to her debts notwithstanding the termination of the coverture. Approved, 31st January, 1846.

separate estate. Such a granting is more consistent with the creation of a true property right from an economic perspective, which focuses on how the law allocates control over particular resources (Barzel 1997). An example of, and indeed the first, statute that clearly granted married women control of their property is the New York Married Women's Property Act of 1848. There are several clauses that specifically address women's control rights and state that a married woman "shall continue her sole and separate property, as if she were a single female" (New York Session Laws, 1848, Chapter 200, p. 307).

Earnings acts, which granted married women a property right to their market earnings, are easier to identify than property acts and typically went through less modification. New York state session laws are again instructive, as an 1860 act added earnings to the rights women held under the 1848 Act cited above. Key clauses in this statute state that property acquired by a married woman "by her trade, business, labor or services" shall "be and remain her sole and separate property . . . and shall not be subject to the interference or control of her husband" (New York Session Laws, 1860, Ch. 90, p. 157). This 1860 New York act has been identified by scholars as a major advance in women's economic status (VanBurkleo (2001, pp. 132-3)). One prominent reformer at the time suggested that the act granted married women "equal rights with their husbands, save simply the right of voting."[13]

Legislative acts expanding married women's economic rights were not passed in a political vacuum. Women's groups lobbied for their passage in many states, and assorted arguments were marshaled both for and against passage. In some cases, male legislators supporting rights expansions were influenced by progressive attitudes and by women's rights activists. The sponsor of the 1848 New York Act discussed above, Judge Thomas Hertell, was persuaded by various women's rights orators, and wanted a wife to be "respected as the equal of

[13] Andrew Colvin in a letter 1862 letter to Susan B. Anthony, quoted in *History of Woman Suffrage* (1881, p. 749).

a good husband."[14] Women lobbied for a year in New York to secure the passage of the 1860 earnings act discussed above. Intense lobbying by women led to the passage of a married women's property act in Ohio in 1861.[15] In the West, married women's property acts were often passed with the intention of attracting women to the region, and retaining them.[16] Scholars have also noted that reform was slower in the agrarian South, and that legislatures there focused on granting women separate estates mainly to insulate them from profligate husbands (VanBukleo 2001, p. 128, Chused 1983, p. 1361).

There was also opposition to enactment of these types of statutes, which usually relied on arguments that they would undermine traditional existing orders within the family. In Texas, for example, one delegate argued that property law reform was opposed to God's command that "the woman shall be subject to the man."[17] One commentator in 1871 noted the importance of these laws in weakening coverture, as well as the nature of arguments against them, stating that, "The law of the status of women is the last vestige of slavery. Upon their subjection it has been thought rests the basis of society; disturb that, and society crumbles into ruins. By the married women's property acts the first blow has been struck . . . The huge idol will sooner or later be broken into pieces."[18]

2.2 Incentive Effects of Expanding Women's Economic Rights

We argue that expansions of women's economic rights embodied in property and earnings acts strengthen incentives to invest in the human capital of girls and young women. This

[14] Hertell quoted in Rabkin (1980, p. 87).
[15] VanBukelo (2001, p. 131) states that, "In Ohio, incessant campaigning to persuade delegates to the constitutional convention to grant women 'all the political and legal rights . . . guaranteed to men' led to passage of a married women's property law in 1861."
[16] Regarding the California married women's property reform, August (1990, p. 54-6) notes that one delegate explained that he had chosen the 'best provision to get us wives.' Also see Chused (1983).
[17] VanBukelo (2001, p. 129).
[18] *American Law Review* 6 (1871): 73 (no author given).

argument is based on insights from the economic literatures on human capital investment, on household decision-making, and on property rights.

Economic approaches to human capital investment emphasize that the extent of these costly investments will depend on the magnitude of expected investment returns (Becker, 1962). This principle leads to a number of predictions about the timing and extent of human capital investments by life stage and by gender. It predicts that human capital investments will be made early in life due to the longer lifespan remaining to realize investment returns, and that changes in expected lifespan will lead to changes in investments (Becker, 1962). It also predicts that investment in girls will be lower than that for boys if women's childbearing reduces their expected lifespan relative to men; or if childbearing reduces expected returns on investments due to time constraints, health effects or other effects of childrearing (Eschevarria and Merlo, 1999). These two predictions are consistent with both the observation that schooling occurs mainly while individuals are young, and with evidence indicating that improvements in expected female longevity lead to greater human capital investments in girls (Jayachandran and Lleras-Muney 2007).

Similarly, expansions of married women's economic rights are expected to increase the returns to human capital investments in girls, for several reasons. First, parents recognize that human capital is complementary to the exercise and protection of property rights. There is also a literature arguing that education improves the effective exercise and protection of property rights.[19] If parents believe that education will allow girls to more effectively exercise the rights they are granted through the acts, they will respond by increasing investments in girls' human capital.

[19] See, e.g. Pierce (2005), who finds a negative relation between education levels and the termination of parental rights; and Vidmar and Schuller (1987), who find a relationship between education levels and the pursuit of legal rights.

We also expect stronger economic rights to increase girls´ schooling due to resultant shifts in property rights within the household. Expansions of women's economic rights have been characterized as changing the household decision-making regime from patriarchy to intra-household bargaining (Doepke and Tertilt 2009; Fernandez 2009). Human capital investments allow women to obtain greater benefits within the household if human capital increases bargaining power. The desire to allow daughters to reap the benefits of expanded economic rights via household bargaining also leads families to increase investments in girls' human capital.[20]

Human capital investments may also increase marriage market opportunities (Benham 1974; Peters and Siow 2002), and the benefits of (positive) assortative mating are likely to be higher under a household bargaining regime (a regime of expanded women's rights). Non-market benefits of education include higher productivity within the household, with implications for family health and child quality (Haveman and Wolfe 1984). Household returns to women's education will be higher when they have greater input into decisions. Expectations that girls will have greater decision-making power within marriage strengthen incentives for positive sorting in the marriage market, thereby increasing returns to investments in daughters' human capital.

Geddes and Lueck (2002) characterize the decline of coverture as a shift from a regime in which men control women and own their output to a self-ownership regime in which women own themselves and their output and contract freely with others. Their reasoning implies that expanding rights will lead to increased human capital investment for girls if rights are associated with increased contracting opportunities outside the household. Others have noted that women's participation in the labor force was low over this period, and was particularly low among married

[20] Eschevarria and Merlo (1999) demonstrate in an overlapping generations model of household bargaining that families choose higher investments in girls' education when household decisions are made through intra-household bargaining than when decisions are made under patriarchy (a single male decision-maker).

women (e.g., Roberts 2007). Still, labor force participation among women – especially young women – increased in the late 19th century, and the timing of this increase coincides broadly with the coming-of-age of girls who were affected by changes in women's economic rights in their youth.

These literatures point to a variety of avenues by which the expansion of women's property rights will increase human capital investment in girls and young women. These predictions imply specifically that investment in girls will increase relative to that in boys. Moreover, we expect that these effects will be long lasting because they are permanent changes in women's rights for the period we examine. The rate of school attendance is a direct measure of human capital investment. We thus predict that expanding women's economic rights will lead to increased school attendance by girls, relative to boys.

Anecdotal evidence from this period is consistent with women's enhanced economic rights affecting children's schooling. Doepke and Tertilt (2009, p. 1582) describe a July 1868 debate in the House of Commons regarding a marital property bill in England. The debate included consideration of the impact of marital property law reform in the United States, and the testimony of a New York merchant was taken. They state that: "Asked whether he had 'seen any alteration in the condition of married women . . . since the alteration of the law,' the witness replied, 'I have noticed the women are being more educated, and are more desirous to educate their children. They send their children almost universally to school.'" We next examine this proposition empirically.

3. Sample and Data

We test the prediction that greater economic rights increased human capital investments in girls by examining whether passage of earnings and property acts is associated with an

increase in girls' school attendance relative to boys'. We examine the period 1850 to 1920, combining data on state passage of the laws with state-level data from the U.S. decennial census summary reports and from individual-level data from IPUMS, the Integrated Public Use Microdata Series (IPUMS-USA). [21] The census data are aggregated to the state level. Thus, our dataset organized at the state-by-year level in ten year intervals.

Because of changes in territory boundary definitions over this time period, our sample includes only those states and territories in each census year that had achieved (roughly) their permanent boundaries by that year.[22] We include all states with permanent boundaries in our sample, not just those which adopted Anglo-American common law. As noted previously, it was the common law doctrine of *coverture* that vested all household property rights in the husband prior to passage of the married women's rights acts. The eight U.S. states which evolved from territories under the control of France or Spain, acquired a civil law tradition.[23] Part of that tradition was the doctrine of community property, which treats property acquired during the marriage as jointly owned by both spouses. Husband and wife held marital property in equal and undivided interests in the eight community property states of that era. However, community property law did not actually give women equal rights since husbands usually held exclusive *control* rights over joint property and wealth. Statutory changes through property and earnings acts were needed to extend equal rights, in the economic sense, to married women. Thus we

[21] These data are made available by the University of Minnesota's Population Center through www.ipums.org.

[22] For example, in the 1850 census the data reported for Oregon (territory) corresponds to the current states of Oregon, Washington and Idaho combined. By 1860 Oregon's present day boundaries had been defined, but the census data reported for Washington (territory) corresponds to the current states of Washington and Idaho combined. Washington and Idaho obtained their permanent borders by 1870. Thus, in our sample we include Oregon from 1860 forward, and Washington and Idaho from 1870 forward.

[23] The eight community property states in our data set are Arizona, California, Idaho, Louisiana, Nevada, New Mexico, Texas, and Washington. Wisconsin is today a community property state, but did not adopt this doctrine until the 1970s.

include the community property states in our sample, but explore the impacts of this distinction in law regimes in the empirical estimates.

3.1. Data on Legal Changes

Data on state laws granting married women greater economic rights come from primary and secondary sources. We use the earliest year a state passed an act granting married women management and control over their separate earnings or estates.[24] This approach provides a specific characterization of property rights that emphasizes women's control. Obtaining reliable dates of passage for property acts and earnings acts for all states was challenging due to numerous legislative permutations in some states.

We conducted extensive legal research to obtain the most accurate enactment dates possible. We utilized a three-step process. The first was to examine current published lists of act dates. There are two major published lists: Khan (1996) and Hoff (1991). Khan's primary focus is on the dates at which married women could hold patents in their own name, while Hoff reports the date of all acts that may have affected married women's property and earnings. Neither scholar focuses on women's ownership and control rights *per se*. In order to confirm the accuracy of the dates listed by those authors and provide documentation for them, we obtained the relevant state legislative session laws for the years listed.

For further confirmation and to search for missing dates, we consulted legal treatises in the area. There are three major relevant legal treatises: Bishop (1873-1875), Kelly (1882), and Wells (1879).[25] Those treatises were also helpful in obtaining additional documentation. We include discussion from legal treatises where helpful. Our final step was to further examine state session laws, going back in time to determine if earlier acts than those obtained through the

[24] We emphasize the earliest date because some states, such as New York, passed follow-up married women's property acts to more precisely define the rights of married women. See e.g. Basch (1982, pp. 200-35).
[25] Several other treatises were used but were not as central.

above two steps were passed. The final dates we derive are similar but not identical to those from Hoff (1991), Khan (1996), and Geddes and Lueck (2002).[26]

Figure 1 charts the number of states adopting each act type over time, illustrating the timeframe and the rate of adoption. In general, the property acts were adopted earlier than earnings acts. The figure also demonstrates the relatively short timeframe over which changes in women's economic rights occurred in the United States.

(Figure 1 here)

Figure 2 shows the geographic patterns of law passage with a series of maps indicating the census date by which each state changed its laws. Panel A displays the dates of property act passage. Panel B displays the dates of earnings act passage, and Panel C shows the dates by which each state had passed both a property and an earnings act. These maps reveal that northeastern and some western states tend to be early adopters of the laws, while southern states tend to adopt later. These patterns are perhaps unsurprising in light of uneven economic development and population growth across states during this period.

(Figure 2 here)

3.2. Data from Census Summaries

Data on aggregate schooling rates by state, and data on other state characteristics that serve as controls, were obtained from U.S. decennial census compendia. School attendance is reported separately for school-age boys and school-age girls in these published census data, and is defined as the number of children ages 5 through 19 who attended school during the year.[27]

[26] There are eleven states where more exhaustive research resulted in a change in the date of passage of both types of acts used in Geddes and Lueck (2002). Only eight of those changes affect estimates using decennial census years. Detailed reasons for those changes are available from the authors.

[27] The data encompass the entire population, except for the slave population in 1850 and 1860, which is excluded. The school-age population is defined in the Census as individuals ages 5-18 for 1850 to 1870, ages 5-17 in 1880, and ages 5-19 in years 1890 and beyond. These definitional differences may lead to differences in published school attendance rates in different census years. However, these should not impact our analysis since they are defined

Figure 3 displays the relative school attendance rates for girls in each census year, using the published Census data. In early sample years girls' school attendance rates are lower than boys', but this difference decreases over time. For census years 1900 and beyond, girls' school attendance rate slightly exceeds that of boys.

(Figure 3 here)

3.3. Data from IPUMS

To examine changes in school attendance among specific age groups, we aggregate data from historical census files of the IPUMS. The IPUMS includes individual-level data on high-precision samples of the American population drawn from every surviving census from 1850 to 2000. We use IPUMS data to construct state-level data on school attendance for children in different age ranges. IPUMS samples for the census years 1850 through 1880 and 1900 through 1920 are used, since the 1890 census data files were lost to fire.

The school attendance rates for different age groups are of interest because states also began to enact compulsory school attendance laws during this era, and these laws required school attendance for both girls and boys in certain age ranges (Landes and Solomon 1972; Richardson 1980). We expect that laws expanding women's economic rights will have the largest effect on girls no longer falling under compulsory schooling requirements, since such girls face the decision to continue with education, to marry, and/or to enter the workforce. Apart from any legal constraints created by schooling laws, school attendance laws may also have served as "rules of thumb" that provided girls with guidance on how much schooling to obtain,

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symmetrically within a census year for boys and girls. The data are based on the Census question of whether an individual in the household attended almost any type of school for at least one day during the previous year (see Goldin 2005, 2-391). Although we would prefer a more detailed measure of attendance, this is the only series that encompasses the period of act passage. Moreover, this measure is appealing because it includes many types of schooling (not just formal), including night and commercial schools for example (see Goldin 2005, 2-392). Our predictions are not limited to formal schooling.

and thus affected their choices.[28] The median and modal ending age for compulsory schooling laws is 14.[29] We therefore expect that women just beyond the age of compulsory schooling -- ages 15 through 19 -- will demonstrate the largest school attendance response to the legal changes.

Table 1 displays the national averages for female school attendance, male school attendance, and differences in male and female school attendance for four constructed age categories by census year: (i) ages 5 to 10; (ii) 10 to 14; (iii) 15 to 19; and (iv) 20 to 24. In the early years of our sample period the 15 to 19 age group displays the largest differences in female and male school attendance, with females' attendance nearly 12 percentage points below males' in 1850. This age group also displays the largest increase in females' schooling relative to males'. By 1900, the 15-to-19-year-old females' school attendance rate is greater than that of males.

(Table 1 here)

3.4. Relating Schooling Changes to Rights Changes

Figure 3 and Table 1 display a general upward time trend in girls' school attendance relative to boys', both overall and for girls beyond the age of compulsory schooling whose attendance should be most affected by the laws we consider. But these data do not relate girls' relative school attendance rates to the passage of the laws within a state. To explore whether such a relationship is present, Figure 4 presents a comparison of the average change in the difference between female and male school attendance rates in the two decades just prior to law passage and the two decades immediately following law passage in a state. The figure shows the

[28] Rules of thumb are likely to be particularly important for decisions that are made only occasionally in life, such as exiting or entering the workforce. For example, the importance of rules of thumb in retirement decisions has been noted by Burtless (2004).

[29] In 1890 for example, 15 of 26 states with laws having an ending age of 14 (Landes and Solmon 1972).

percent of school-aged females attending schools minus percent of school-aged males attending school for each state in each census year. Because we have schooling data at 10 year intervals only, we compare the two decades prior to enactment (from 10 to 19 years prior and from 20 to 29 years prior) to the two decades immediately following enactment (from 10 to 19 years after and from 20 to 29 years after).

Panel A of the figure displays the mean schooling differences before and after the date of passage of a married women's property act, Panel B displays the mean differences before and after passage of an earnings act, and Panel C displays these differences before and after the date by which a state had passed both acts. The data show that female school attendance rates become closer to male school attendance rates after passage of the acts, although the effects are larger for earnings acts than for property acts. These patterns are consistent with our hypothesis.

(Figure 4 here)

4. Empirical Methods

We now provide more formal tests of the hypothesis that passage of earnings and property acts is associated with an increase in girls' schooling. To control for unobservable factors that may impact the overall demand for or supply of schooling, as in our previous comparisons we measure girls' school attendance relative to boys'. The primary dependent variable in our models is the difference in girls' and boys' schooling rates (the percent of school-aged females attending school minus percent of school-aged males attending school) in each state and census year.[30]

[30] We also estimated models using the ratio of female/male school attendance rates in addition to female - male school attendance rates. The results are robust to this alternative specification of the dependent variable. The use of the raw difference rather than the ratio simplifies the interpretation of the coefficient estimates.

4.1. The Empirical Model

We estimate the effect of these legal changes on investments in girls' human capital using regression analysis that controls for other determinants of human capital investment. Our empirical model includes state fixed effects to account for the fact that different states are likely to have permanently different rates of girls' school attendance relative to boys'. Because of the importance of changes over time in girls' relative school attendance rates during this era, the models also include census-year fixed effects. All models are estimated with standard errors that are robust to arbitrary forms of heteroskasticity and to arbitrary correlation patterns within states in a census year.

A simple empirical model to test our predictions about how a state's property rights regime affects the difference in girls' and boys' school attendance can be written as follows:

$$\textit{Female-Male Schooling Rate}_{st} = \boldsymbol{X}_{st}\boldsymbol{\beta} + \theta \textit{Law Indicator}_{st} + \upsilon_s + u_t + \varepsilon_{st} \quad (1)$$

where $s = 1, \ldots n$ indexes the state and $t = 1850, 1860, \ldots 1920$ indexes the census year (excluding 1890). The dependent variable is girls' relative school attendance. $\boldsymbol{X}_{st}$ is a row vector of exogenous variables (our basic controls, discussed below), $\boldsymbol{\beta}$ is a column vector of unknown coefficients, $\textit{Law Indicator}_{st}$ is a dummy variable equal to 1 if the relevant act granting economic rights to married women was in force in state s in year t and θ is an unknown coefficient; υ_s and u_t are state and census year fixed-effects, respectively, and ε_{st} is a random error term.

A concern with (1) is that analysis in Geddes and Lueck (2002) and Doepke and Tertilt (2009) suggests that passage of acts expanding women's economic rights may be jointly determined with girls' school attendance, because increases in the relative returns to women's human capital investments are one catalyst to changing the rights regime. Traditional instrumental variables estimation (IV) is one possible approach to control for this potential

endogeneity, but variables that are correlated with the passage of the acts and are also uncorrelated with girls' school attendance rates are difficult to identify.[31]

Our proposed solution to endogeneity prioritizes the expected differential effects on age groups. We estimate a difference-in-difference (DD) model of the effect of the law in the 15-19 age cohort compared to its effect in younger age cohorts within a state. We use two alternative younger age cohorts as comparison groups: those ages 10 to 14, and those ages 5 to 10. Because our dependent variable is the rate of girls' school attendance relative to boys', this is a triple-difference (DDD) estimate. This gives us the following estimating equation:

$$[\textit{Female-Male Schooling Rate}_{st(15\text{-}19)} - \textit{Female-Male Schooling Rate}_{st(under15)}] =$$

$$\boldsymbol{X_{st}(\beta_{15\text{-}19} - \beta_{under15})} + (\theta_{15\text{-}19} - \theta_{under15})\textit{Law Indicator}_{st} + [(\varepsilon_{st(15\text{-}19)} - \varepsilon_{st(under15)}] \qquad (2)$$

The identifying assumption in this approach is that legal changes will not impact girls' relative schooling rates in younger age groups because convention or compulsory schooling laws required girls and boys in those age groups to attend school. Although passage of acts giving women additional economic rights may be a function of the level of girls' school attendance, it is likely to be a function of attendance overall and not just attendance by 15-19 year olds. Effects of the acts are tested via the hypothesis that $(\theta_{15\text{-}19} - \theta_{under15})$ is significantly greater than zero.

Note that in equation (2) the state and census-year fixed effects drop out due to differencing. This is the appropriate form of the estimating equation if state and year fixed effects are invariant across the different age groups. If there are age-group varying state and

[31] We undertook IV estimates using as an excluded instrument the percentage of a state's neighboring states that had a married women's property act in force, to take advantage of the geographical patterns of law passage displayed in Figure 2. We calculated the number of contiguous jurisdictions and the percent of jurisdictions with a property act based on state and territory boundaries as they appeared in each census year. The use of this instrument is consistent with both political theory suggesting that adoption of new policies will be influenced at least in part by developments in other states (Walker 1969), and with empirical evidence showing that neighboring states' policies are important in explaining state policy adoption (Huff, Lutz and Srivastava, 1988; Besley and Case, 1995; Chamberlain and Harder-Maikel, 2005; Renzulli and Roscigno, 2005). However, this proved to be a somewhat weak instrument and the resulting estimates of the impact of the laws were unexpectedly large.

census-year fixed effects, the model will take the form of (2) but with state and census-year fixed effects remaining in the form of $(\upsilon_{s(15\text{-}19)} - \upsilon_{s(under15)}) + (u_{t(15\text{-}19)} - u_{t(under15)})$. For comparison purposes, we also present estimates using this alternative assumption.

Because the passage of property and earnings acts within a state is highly correlated, we do not include indicator variables for the presence of each act in the same regression. Rather, we estimate separate models that include only an indicator for the presence of a property act, an earnings act, or both act types, respectively. We test the hypothesis that $(\theta_{15\text{-}19} - \theta_{under15}) > 0$ for each act type separately.

4.2. Control Variables

Our control variables include an indicator for community property states,[32] and indicator for whether the state had a compulsory schooling law in a given year, the average real wealth per capita, the percent of the population that is black, the percent of the population living in urban areas, the percent of the population that is foreign born, the ratio of females to males in the population, the average fertility rate, and the number of teachers per capita. The dates of passage of compulsory schooling laws are from Landes and Solomon (1972) and Richardson (1980). We are grateful to Robert Tamura for providing fertility data. All other control variables are from the historical decennial census compendia.

The models include a community property law indicator because it is likely that it reduced the degree to which husbands could expropriate wives' property relative to the common law doctrine of coverture.[33] This difference in the marital property regimes may affect incentives

[32] This measure drops out of the estimates that include state and census-year fixed effects, since the regimes vary only by state.

[33] That community property was more favorable to wives can be seen in inheritance laws, where wives would automatically inherit half of the marital property rather than the third that was customary under common law (Fernandez 2010, Geddes and Zak 2002). Consistent with the notion that the social costs of the community property approach were lower, MWPA and earnings acts tended to be enacted later in community property states than in common law states. The first acts were passed in 1850 in common law states, but in community property states the

to invest in girls' human capital. Information on the presence of a compulsory schooling law is included because such a law may equalize boys' and girls' school attendance rates.[34] Higher real per-capita wealth is included since higher wealth may enhance incentives to invest in human capital (consistent with Fernandez 2010). The percent urban variable is included since it reflects the extent of the labor market. Families may decide to obtain more schooling for girls in areas where labor market opportunities are greater.

We include a control variable for the percent of the population that is black. Several studies suggest that black parents attached a higher value to education, while others suggest that black mothers worked in the paid labor force to allow their children to attend school (Lieberson 1980, Pleck 1978). Commentators also argue that a relative scarcity of employment opportunities increased black school attendance (Goldin 1981, Perlmann 1988). Research suggests that ethnicity is important for daughter's occupational and educational attainment (Mellott and Sassler 2007, Sassler 2006). We therefore include the percent of the population that is foreign born as a proxy for ethnicity.[35]

We include the ratio of females to males in the state's population as a control variable because gender ratios may affect political rights held by women, and therefore influence girls' relative schooling. In addition, gender ratios may serve as a proxy for the effects of shocks such as the Civil War, which likely impacted the relative availability of young men to engage in agricultural work rather than in schooling. These different conjectures suggest different effects of

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first acts were not passed until 1880. By 1920, 97 percent of common law states had passed an earnings act but only 56 percent of community property states had done so.

[34] Lleras-Muney (2002) finds that during the period 1915 to 1939 compulsory schooling laws increased educational attainment by an average of 5 percent and decreased educational inequality because they had greater effects on school attendance among those with lower education levels. See, however, Landes and Solomon (1972) and Tyack (1976) and the literature discussion presented in Lleras-Muney (2002) which shows that the effects of compulsory schooling laws on school attendance rates are mixed in the time period that we study.

[35] Data on the ethnicity of particular immigrant groups is spotty over this period.

the gender ratio on girls' relative school attendance, so we do not have a strong prediction about the sign of this variable.

We also include a measure of women's fertility -- the average number of children born to women in a state in each census year. Women's fertility is an important control since it is directly associated with decisions to invest in human capital (Becker, Murphy and Tamura 1990), and may be associated with unobservable economic or social changes that are correlated with economic rights expansions and investments in girls human capital (Fernandez 2010). We include the number of teachers per capita in a state and year to account for differences in the supply of education. This may affect overall school attendance rates, or may impact girls' relative school attendance if girls' education is viewed as secondary to boys'. Summary statistics for all variables are reported in Table 2.

(Table 2 here)

5. Estimation Results

Estimates of equation (2) showing the acts' effect on girls' relative schooling difference for the 15-to-19 age cohort versus younger age cohorts are reported in Table 3 and Table 4. Table 3 shows the estimates using ages 10-to-14 as the control group. In this specification, the dependent variable is the difference between the female attendance rate and the male school attendance rate for the 15-to-19 age cohort versus this same difference for the 10-to-14 cohort. Table 4 reports estimates of this same model using the 5-to-9 year-old cohort as the control group. The first three columns in each table show the estimates without state and census-year fixed effects, and the final three columns show those that include the fixed effects. We report the effects of three measures of expanded economic rights for women in a state and year: (i) the

presence of a property act; (ii) the presence of an earnings act, and (iii) the presence of both act types. Reported standard errors are clustered by census year.

(Table 3 here)

The estimates in Table 3 show that all three measures of women's economic rights have the predicted positive effect on girls' minus boys' school attendance in the 15-to-19 cohort relative to the 10-to-14 cohort. In the models without fixed effects, the estimated coefficients for each act are statistically significant at the 5 percent confidence level or better; the earnings act coefficient is significant at only the 5 percent level, but the property act coefficient and the both-acts coefficient are significant at the 1 percent confidence level. In the models with state and census-year fixed effects, the impact of the earnings act and of both acts are statistically significant at the 1 percent confidence level while the property act loses statistical significance. The magnitude of the coefficient estimates when fixed effects are included suggests that economic rights expansions are associated with a 1.8 to 2.0 percent increase in school attendance by 15-19 year-old girls relative to boys of the same age, and relative to girls ages 10 to 14. Given that the total change in the schooling difference between 1850 and 1920 was just over 15 percentage points for this age group, the estimates suggest that the effects of the acts were economically important.

Table 4 reports estimates using the 5-to-9 year-old cohort as the comparison group. The estimates are broadly similar to those reported in Table 3, but the effects of the acts are larger and more statistically significant. In the estimates without fixed effects, the estimated coefficients for each of the acts variables are statistically significant at the 1 percent confidence level. When state and census-year fixed effects are included, the coefficient estimates for the earnings act and for both acts remain statistically significant at the 5 percent confidence level,

while that for the property act falls to 10 percent. In these estimates the magnitude of the coefficient estimates suggests that economic rights expansions are associated with a 2.8 to 3.0 percent increase in relative school attendance by 15-19 year-old girls, over that of girls ages 5 to 9. The larger effect on schooling relative to this younger age group is perhaps unsurprising if the acts increase incentives to invest in human capital by obtaining more years of schooling.

(Table 4 here)

In the estimates in both Table 3 and Table 4, several of the control variables are also statistically significant. In the models that include fixed effects, significant variables include number of teachers per capita, women's fertility rates and the percent of the population living in urban areas. A larger number of teachers per capita is associated with higher relative school attendance among 15-to-19 year old girls relative to younger cohorts. Higher fertility rates and more urban populations are associated with lower relative school attendance for 15-to-19 year old girls, although this difference is statistically significant only in the estimates using the 10-to-14 age cohort. This is consistent with the idea that availability of teachers, women's fertility, and urbanization affect the length of time that girls remain in school (relative to boys).

Of particular interest in the models without fixed effects, the indicator for states with community property law regimes is positive and statistically significant at the 5 percent confidence level or better in all but one of the estimated models. Community property regimes increase school attendance among 15-19 year-old girls (relative to boys) by 3.9 to 4.1 percent over that of 10-14 year-old girls. Effects are smaller when comparing 15-19 year-olds to those under age 10, suggesting a 2.9 to 3.2 percent increase in relative school attendance among older girls as a result of community property. This smaller difference may result if community property increases girl's school attendance during ages 10-14 as well as beyond age 14. Overall,

the positive and significant effect of community property on girls' relative school attendance is consistent with our general thesis that marital property rights regimes will affect incentives to invest in girls' schooling.[36]

6. Summary and Conclusions

This paper examines the effects of expanding women's economic rights on investment in female human capital. We focus on the 19th century United States where individual states adopted laws that weakened the common law doctrine of *coverture* and gave married women the right to own property and to make contracts. Using decennial state-level panel data from 1850 to 1920, we estimate the effect of the acts granting those rights on one measure of female human capital investment: school attendance. Our analysis indicates that enhancement of women's economic rights increased school-age girls' attendance relative to that of school-age boys.[37] Specifically, we compare girls' school attendance at different ages, and find that additional economic rights for women generate greater increases in girls' relative school attendance in the 15 to 19 age group than in younger age groups. This provides support for our hypothesis and suggests a causal effect of rights changes on school attendance, since we expect the acts to have their largest effects on this older age group.

Our study adds to the literatures on the effects of property rights and on the effects of institutional change more broadly. The results provide additional empirical evidence for the argument that legal institutions protecting property rights strengthen investment incentives. This

[36] We also estimated models in which the community property indicator was interacted with the married womens' rights act indicator. This interaction did not affect the main results, and was never statistically significant. This suggests that the change in incentives to invest in schooling did not differ across states with different marital rights regimes.

[37] Our findings do not support Doepke and Tertilt's (2009) hypothesis that an increase in women's rights will have no effect on the gender education gap.

paper also helps address the gap in our understanding of the empirical effects of granting women economic rights, and by extension the effects of extending economic rights to other groups.

The dramatic changes in the rights of women over the course of American history suggest the importance of property rights institutions. Human ownership regimes are important because they affect incentives to acquire and develop human capital. Because human capital investment is costly to monitor, and because it is also costly to monitor the highly skilled labor associated with this investment, it is difficult to generate the incentives for efficient investment and use of human capital without granting individuals basic rights of self-ownership. Our findings suggest that changes in women's economic rights are likely to be an important factor in the investment of women's human capital outside the household.

Figure 1
Cumulative Adoption of Married Women's Property Acts and Earnings Acts

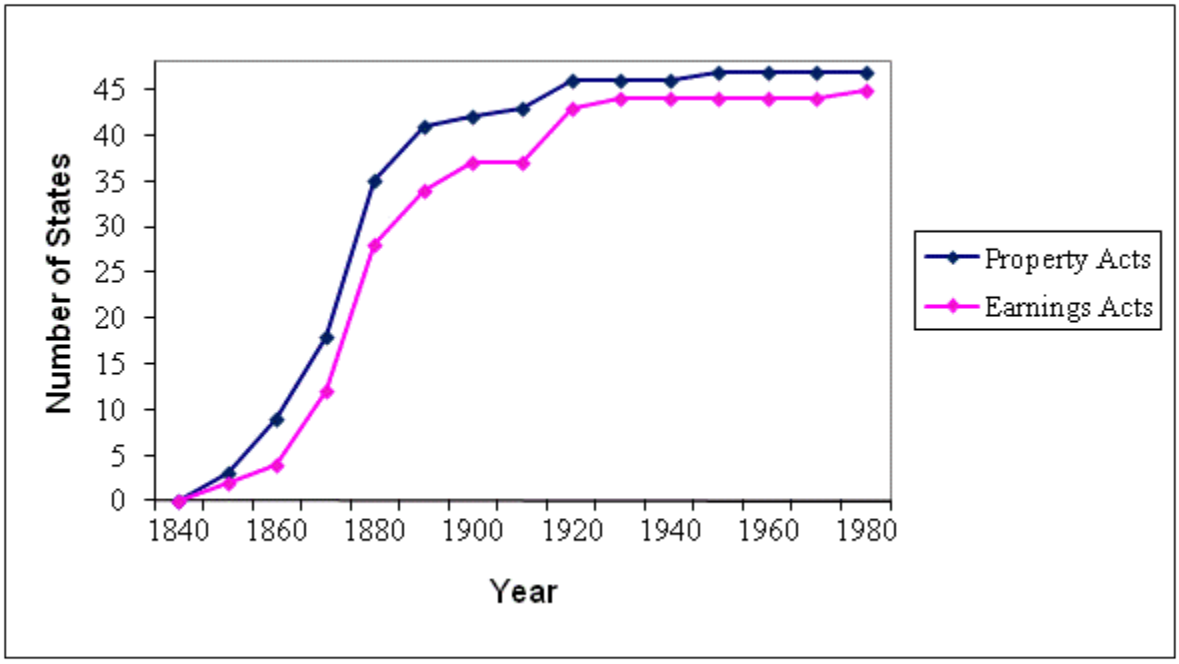


Figure 2
Passage of Women's Economic Rights in the United States

Figure 2A: Passage of the Married Women's Property Acts

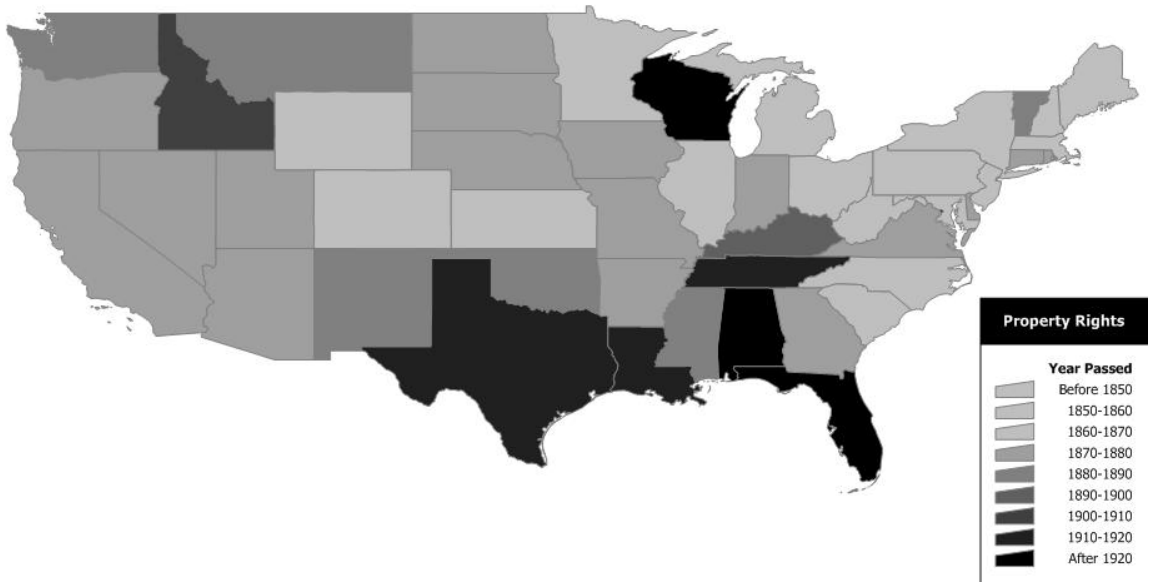


Figure 2B: Passage of the Earnings Acts

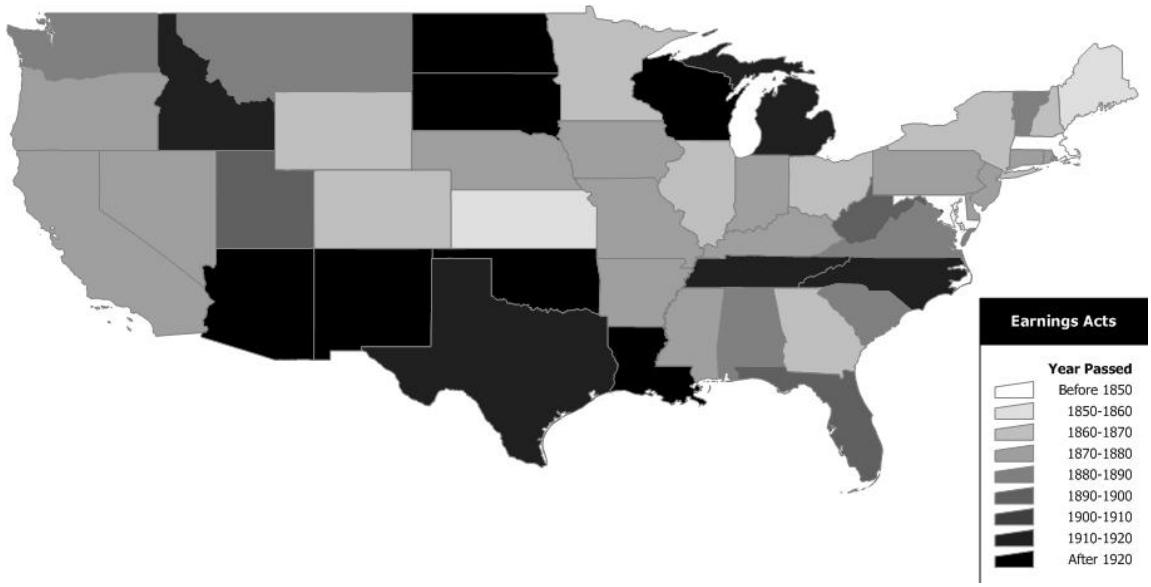


Figure 2C: Passage of Both Acts

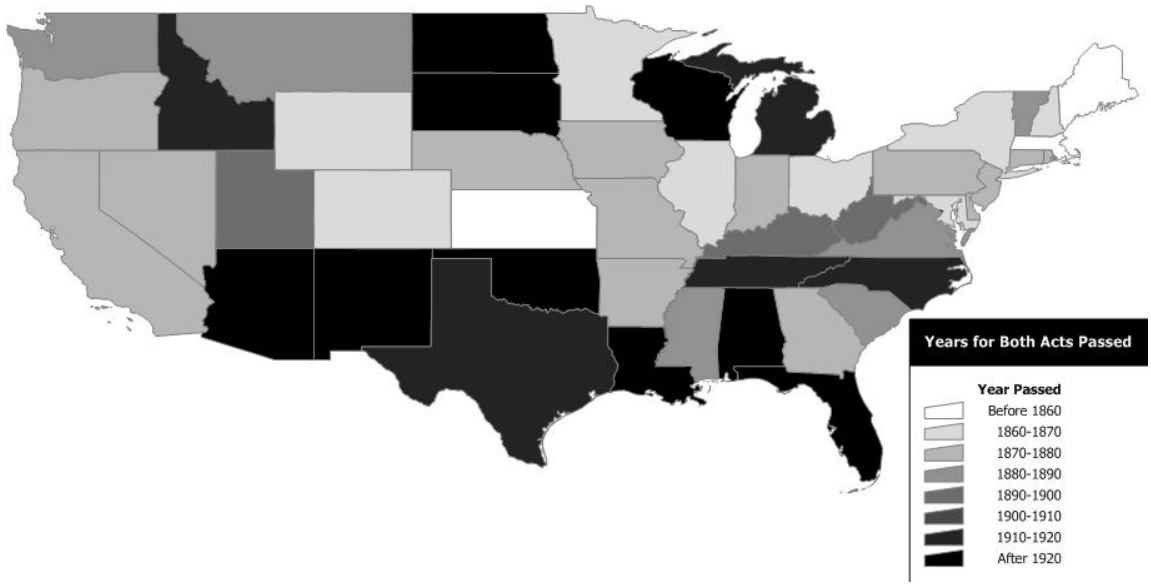


Figure 3
Girls' Relative School Attendance by Census Year for all U.S. States

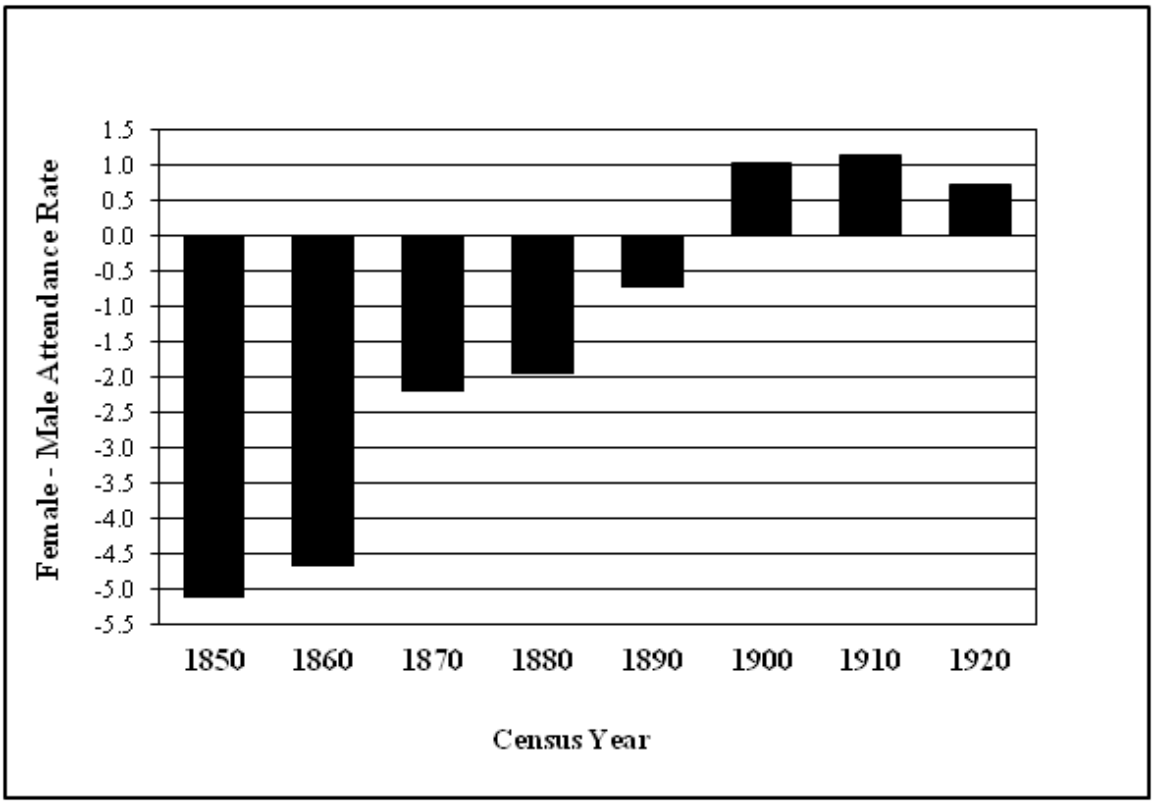
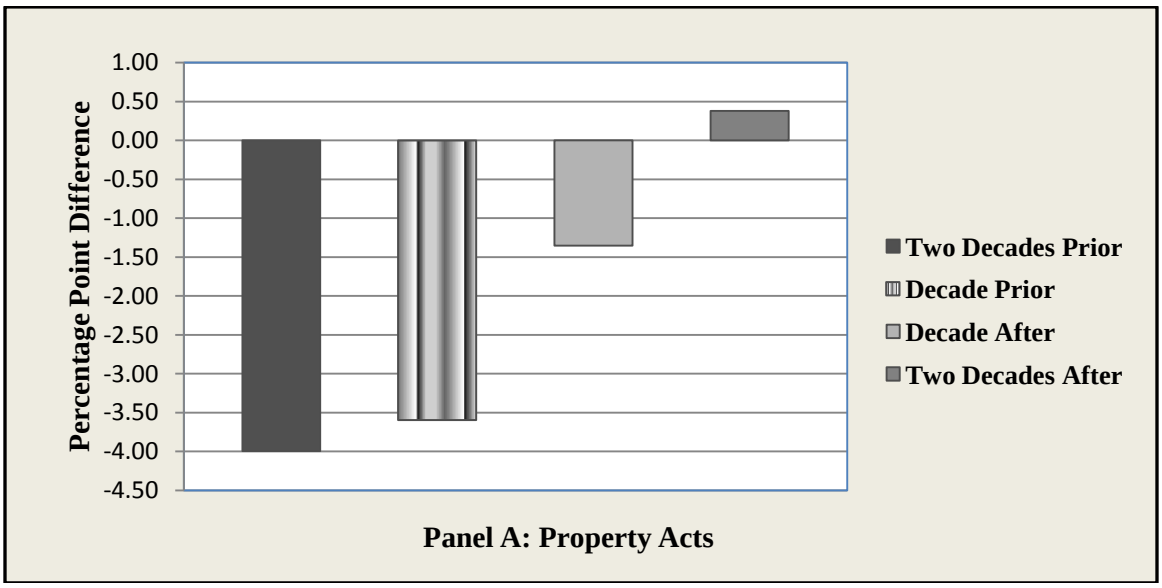
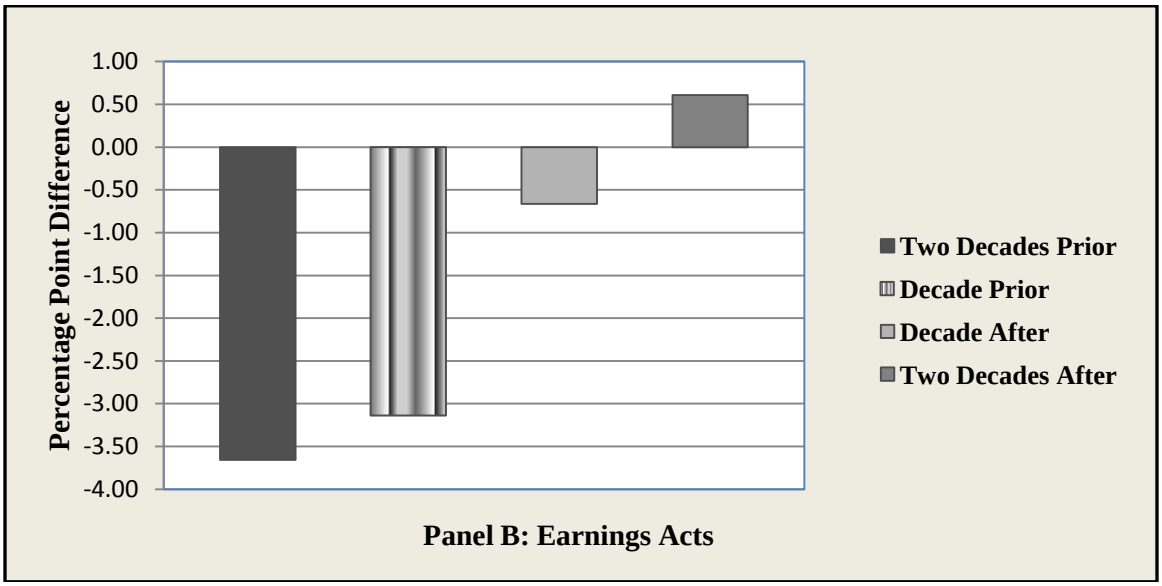


Figure 4.
Female – Male School Attendance Rates Prior to and After Acts




1.00
0.50
0.00
-0.50
-1.00
-1.50
-2.00
-2.50
-3.00
-3.50
-4.00
Percentage Point Difference
Two Decades Prior
Decade Prior
Decade After
Two Decades After
Panel B: Earnings Acts

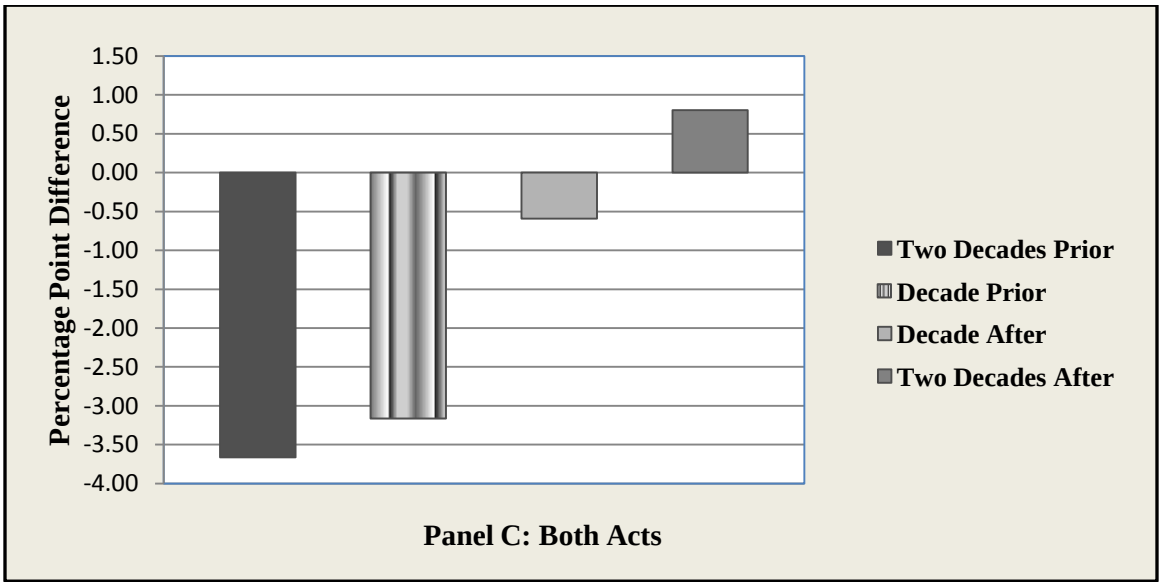

1.50
1.00
0.50
0.00
-0.50
-1.00
-1.50
-2.00
-2.50
-3.00
-3.50
-4.00
Percentage Point Difference
Two Decades Prior
Decade Prior
Decade After
Two Decades After
Panel C: Both Acts

Table 1
Percent School-Age Children in School by Sex, Age and Year

Year	Age 5-9			Age 10-14		
	Female	Male	Difference	Female	Male	Difference
1850	23.92%	24.32%	-0.40%	55.30%	54.67%	0.63%
1860	23.77%	21.97%	1.80%	58.73%	61.10%	-2.37%
1870	18.26%	18.02%	0.24%	57.62%	59.47%	-1.85%
1880	22.45%	22.48%	-0.03%	70.48%	67.06%	3.42%
1890*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
1900	22.74%	23.17%	-0.43%	79.88%	77.92%	1.95%
1910	30.23%	30.37%	-0.14%	89.18%	88.46%	0.72%
1920	34.71%	34.24%	0.47%	92.50%	92.60%	-0.10%
	Age 15-19			**Age 20-24**		
	Female	Male	Difference	Female	Male	Difference
1850	24.04%	35.70%	-11.67%	2.05%	5.11%	-3.06%
1860	27.22%	35.64%	-8.42%	1.75%	4.93%	-3.18%
1870	22.16%	29.05%	-6.89%	1.19%	2.91%	-1.72%
1880	26.52%	28.64%	-2.12%	1.49%	4.09%	-2.60%
1890*	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
1900	34.56%	31.36%	3.20%	1.90%	3.00%	-1.10%
1910	42.85%	39.21%	3.64%	3.67%	4.47%	-0.80%
1920	43.34%	39.80%	3.54%	3.88%	4.31%	-0.43%

Source: authors' calculations from IPUMS historical census files. No IPUMS data are available for 1890 because the original census files were lost to fire.

Table 2
Summary Statistics for Regression Variables

Variable *(Regression Table Label)*	Obs.	Mean	Std. Dev.
Difference in state's female and male school attendance rates for school-aged population *(Female - Male schooling rate)*	345	-1.146	3.034
Difference in state's female and male school attendance rates for population aged 15-19 *(Age 15-19 Female - Male schooling rate)*	289	-1.827	8.900
Difference in state's female and male school attendance rates for population aged 10-14 *(Age 10-14 Female - Male schooling rate)*	289	0.890	5.133
Difference in state's female and male school attendance rates for population aged 5-9 *(Age 5-9 Female - Male schooling rate)*	289	0.067	3.602
State's female minus male school attendance rates for age 15-19 minus that for age 10-14 *(Age 15-19 - Age 10-14 Female - Male schooling*	289	-2.717	9.612
State's female minus male school attendance rates for age 15-19 minus that for age 5-9 *(Age 15-19 - Age 5-9 Female - Male schooling rate)*	289	-1.894	9.763
State has Married Womens' Property Act *(Law Indicator: Property Act)*	345	0.681	0.466
State has Married Womens' Earnings Act *(Law Indicator: Earnings Act)*	345	0.568	0.496
State has both Property and Earnings Act *(Law Indicator: Both Acts)*	345	0.539	0.499
State has a compulsory schooling law *(Compulsory Schooling Law)*	345	0.490	0.501
State wealth per capita (constant 000's) *(Per Capita Wealth)*	345	13.894	9.611
Percent of state population that is Black *(Percent Black)*	345	12.514	17.882
Percent of state population living in urban areas (*Percent Urban)*	345	27.887	20.806
Percent of state population that is foreign-born *(Percent Foreign-born)*	345	13.919	11.0538
Ratio of the state's female population to the state's male population *(Ratio Females to Males)*	345	90.847	15.297
Average number of children born per adult female *(Womens' Fertility)*	345	4.701	1.186
Number of teachers divided by state population *(Teachers Per Capita)*	345	6.316	5.908

Sources: Overall school attendance, wealth, sex ratios, population and teachers per capita are obtained from historical Census summaries; school attendance rates for individuals ages 5-9, 10-14, 15-19 and 20-24 are constructed by the authors from historical IPUMS data; earnings and property acts data are constructed by the authors; compulsory schooling laws data are obtained from Landes and Solmon (1972); women's fertility data are obtained from Robert Tamura.

Table 3
Effects of Acts on Differences in Relative School Attendance, Ages 15-19 versus Ages 10-14

	Without Fixed Effects			*With State and Year Fixed Effects*		
Variable	Property Act	Earnings Act	Both Acts	Property Act	Earnings Act	Both Acts
Act Indicator	5.264***	2.976**	2.634***	1.774	1.821***	2.035***
	3.982	2.367	3.093	1.474	3.193	3.158
Compulsory Schooling	1.832	3.157**	3.096**	-0.457	-0.584	-0.780
	1.029	2.109	1.996	-0.304	-0.394	-0.524
Per Capita Wealth	0.074**	0.101**	0.100**	0.068	0.068	0.071
	2.033	2.510	2.385	0.857	0.860	0.887
Percent Black	0.095**	0.076*	0.084*	0.083	0.080	0.059
	2.009	1.658	1.868	0.357	0.331	0.256
Percent Urban	-0.041*	-0.063*	-0.058*	-0.231***	-0.244***	-0.245***
	-1.708	-1.688	-1.754	-4.476	-5.174	-5.236
Percent Foreign-born	-0.030	0.010	0.007	-0.055	-0.032	-0.031
	-0.617	0.146	0.117	-0.440	-0.269	-0.253
Ratio Females to Males	-0.092	-0.048	-0.054	0.174	0.188	0.194
	-0.924	-0.479	-0.546	0.925	1.020	1.051
Women's Fertility	-3.243***	-3.116***	-3.211***	-2.753***	-2.838***	-2.761***
	-5.465	-5.594	-5.340	-4.313	-5.124	-5.627
Teachers per Capita	0.204***	0.200***	0.199***	0.272***	0.269***	0.269***
	2.863	3.111	3.235	6.351	6.308	6.268
Community Property	3.968**	4.096***	3.872**	--	--	--
	2.365	2.680	2.536			
N	289	289	289	289	289	289
R^2	0.422	0.394	0.391	0.392	0.392	0.393

Note: Dependent variable is the difference in girls' and boys' school attendance rate (girls' school attendance rate minus boys' school attendance rate) for 15-19 year olds, minus this same difference in attendance rates for 10-14 year olds. State averages are from aggregate Census data and include years 1850-1880 and 1900-1920,1890 Census data are not available due to being lost in a fire. T-statistics are reported below the coefficient estimates, and are based on standard errors robust to heteroskedasticity and arbitrary correlation over states within a census year. *** indicates significant difference from zero at the one percent confidence level using a two-sided test; ** indicates significant difference from zero at the five percent confidence level using a two-sided test; * indicates significant difference from zero at the ten percent confidence level using a two-sided test.

Table 4
Effects of Acts on Differences in Relative School Attendance, Ages 15-19 versus Ages 5-9

	Without Fixed Effects			*With State and Year Fixed Effects*		
Variable	Property Act	Earnings Act	Both Acts	Property Act	Earnings Act	Both Acts
Act Indicator	5.849***	4.752***	4.352***	2.784*	2.750**	2.998**
	3.984	2.863	3.799	1.950	2.248	2.180
Compulsory Schooling	1.989	3.154*	3.017*	0.692	0.501	0.218
	1.045	1.950	1.750	0.450	0.334	0.140
Per Capita Wealth	0.188**	0.219***	0.217***	0.187	0.185	0.190
	2.558	3.900	3.807	1.506	1.476	1.506
Percent Black	0.124*	0.097	0.110*	0.316*	0.311	0.281
	1.941	1.624	1.830	1.718	1.514	1.434
Percent Urban	-0.020	-0.059	-0.052	-0.217	-0.238*	-0.238*
	-0.512	-1.305	-1.160	-1.511	-1.677	-1.693
Percent Foreign-born	-0.059	-0.004	-0.006	-0.183	-0.148	-0.146
	-0.847	-0.049	-0.089	-1.304	-1.170	-1.136
Ratio Females to Males	-0.102	-0.040	-0.048	0.083	0.105	0.113
	-1.097	-0.454	-0.544	0.527	0.680	0.734
Women's Fertility	-1.862	-1.563	-1.703	-0.769	-0.913	-0.807
	-1.324	-1.204	-1.309	-0.378	-0.432	-0.383
Teachers per Capita	0.210***	0.207***	0.206***	0.220***	0.216***	0.216***
	6.123	6.086	6.288	4.621	4.555	4.511
Community Property	2.517	3.165**	2.851**	--	--	--
	1.519	2.164	1.981			
N	289	289	289	289	289	289
R^2	0.380	0.363	0.358	0.300	0.295	0.296

Note: Dependent variable is the difference in girls' and boys' school attendance rate (girls' school attendance rate minus boys' school attendance rate) for 15-19 year olds, minus this same difference in attendance rates for 5-9 year olds. State averages are from aggregate Census data and include years 1850-1880 and 1900-1920,1890 Census data are not available due to being lost in a fire. T-statistics are reported below the coefficient estimates, and are based on standard errors robust to heteroskedasticity and arbitrary correlation over states within a census year. *** indicates significant difference from zero at the one percent confidence level using a two-sided test; ** indicates significant difference from zero at the five percent confidence level using a two-sided test; * indicates significant difference from zero at the ten percent confidence level using a two-sided test.

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