The Effects of Granting Greater Economic Rights for Women on Female Labor Force Participation

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May 9, 2008

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I. Introduction

Up until the beginning of the 20th Century, married women in the United States were bound by the doctrine of coverture, a legal concept which vested a wife's existence in her husband (Blackstone, 1765-1769). Under this legal provision, adopted from English common law, a married woman's husband had control over all aspects of her life. Some restrictions imposed on married women were that they could not enter into a contract without their husbands, engage in commercial activity without the consent of their husbands, make a will, sue or be sued in their own name, or manage or control their own earnings or property (Geddes and Lueck, 2002; Kahn, 1996).

Several scholars have argued that the establishment and protection of property rights is essential for economic development and the reduction of poverty (see North and Thomas, 1973; North, 1981; Demsetz, 1967; Alchian and Demsetz, 1973). Furthermore, property rights have been known to alter the investment decisions of the holders of these rights (see Demsetz, 1967; Alchian and Demsetz, 1973; Field, 2007; Galiani and Schargrodsky, 2005; Besley, 1995). However, coverture legally deprived married women of property rights. That is until the passage of married women's property acts (MWPA), laws that gave married women the right to manage and control their property, and earnings acts, laws that established that a woman's earnings were her separate property.

This paper seeks to examine the effects greater economic rights for married women had on women's behavior in the United States, specifically on female labor force participation. The possible effect of this legal reform on female labor force participation

is important as scholars have noted that a nation's labor force participation rate is influential in its economic development (Smith, 1776; Goldin, 1986).

In section II of this paper I present the conceptual framework for this study. In section three I expand on the history of coverture, give information related to married women's lives under coverture, and summarize relevant literature. In section four I discuss my research design and in section five I present my results and analysis. Finally, in section six I discuss my conclusions.

II. Conceptual Framework

The theory for this paper is based on Ronald Coase's economic approach to property rights (1960). According to Coase, property rights establish a person's control over a scarce resource. The establishment of effective property rights is said to affect an individual's choice to invest in, maintain and improve this resource. When an individual lacks rights to a property, he or she will not gain from any investments in that property and thus will choose to under invest, or in most cases to not invest at all (Demsetz, 1967; Alchian and Demsetz, 1973). However, when given rights to a property, individuals are given the ability to capture the benefits of investing and thus have a greater incentive to invest (Demsetz, 1967; Alchian and Demsetz, 1973).

Before the passage of MWPA and earnings acts, married women lacked effective property rights. Any benefits of investing in their property and work were captured by their husbands. This may have caused women to under invest. Because earnings acts and married women's property acts gave women property rights, they gave married women the opportunity to fully capture the benefits of their investments.

Three main predictions of this paper are as follows: First, because earnings acts allowed married women to fully capture the benefits of working (i.e. retain their earnings), these acts increased women's investments in their work (i.e. they gave women the incentive to enter the labor market). Thus, earnings acts increased female labor force participation. Second, because MWPA allowed married women to hold the benefits of working in the form of personal property, these acts also increased female labor force participation. Third, because greater economic rights allowed married women to fully capture the benefits of working, these acts lead to a shift in labor force participation away from the agricultural industry to the higher paying manufacturing and service industries (see Goldin, 1990, concerning women's wages).

III. Background Information

Historical Background

The idea of marital unity, or the doctrine of coverture, was once a key feature of English common law and was adopted by the U.S. legal system. According to the legal concept of marital unity, once a man and woman were married they were to be considered a single entity in which the husband had almost complete control. As Norma Basch wrote, "'in the eyes of the law' the husband and wife were one person—the husband" (Basch, 1979).

Coverture placed a woman under the "protective cover" of her husband when she married (Basch, 1982). She went from being considered a *feme sole* (an independent woman) to being a *feme covert* (a legal fiction in which she possessed no legal identity) (Shammas, 1994). Legally, a *feme covert* could not enter into a contract without her husband, engage in trading without the consent of her husband, make a will, sue or be

sued in her own name, control her own earnings, or manage any real or personal property that she brought to the marriage (Basch, 1982).

The doctrine of coverture was prevalent in early American legal history. However, in the middle of the nineteenth century many state statutes were passed that granted married women greater economic rights, leading to the demise of coverture (Basch, 1982). A number of scholars argue that there were three main statutes passed by states between the middle of the nineteenth century and the beginning of the twentieth century that granted married women the greatest economic rights. These statutes were married women's property acts, earnings acts, and sole trader acts (See Kahn, 1996; Geddes & Lueck, 2002; Roberts, 2002).

According to several legal historians, married women's property acts were passed in at least two separate waves (see Shammas, 1994; Chused, 1983). The first wave of married women's property acts are known as *debt statutes*. These laws protected a wife's property from her husband's creditors and did almost nothing to challenge coverture. Debt statutes were passed primarily in response to the Panic of 1837, an economic crisis that caused many American families to face economic hardships. According to Chused, debt statutes were created as a way to insulate families from financial problems during this time. The statutes protected a wife's assets from her husband's creditors so that her assets could serve as a cushion for the family. This cushion was meant to give the husband the opportunity to take financial risks and better the family's economic situation. The following is an example of a debt statue. The Acts of Alabama, 1846, No. 20 (p. 25) states:

> Section 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.

The second wave of married women's property acts, however, consisted of more comprehensive acts. These newer acts granted a married woman control and management rights over her separate property (Shammas, 1994; Chused, 1983). The following is an example of such an act. The Laws of Arizona, 1871, (p. 18) states:

> Section 1. Married women, of the age of twenty-one years and upwards, shall have the sole and exclusive control of their separate property; and may convey and transfer lands, or any estate or interest therein, vested in or held by them in their own right, and without being joined by the husband in such conveyance, as fully and perfectly as they might do if unmarried."
> Approved January 22d, 1871."

Acts like the one above seem to give women more effective economic rights than debt statutes; as such these are the types of acts in which this paper will focus.

Some historians, such as Richard Chused, view earnings acts as a third wave of married women's property acts (1983). Before earnings acts were passed, a wife's earnings were owned by her husband. However, earnings acts established that a wife's wages were her separate property, protecting them from the control of her husband. The following is an example of an effective earnings act passed in the 19th Century. The Illinois Public Laws 1869 (p. 255) state:

> "That a married woman shall be entitled to receive, use and possess her own earnings, and sue for the same in her own name, free from the interference of her husband or his creditors: *Provided*, this act shall not be construed to give to the wife any right to compensation for any labor performed for her minor children or husband."

Several scholars have presented reasons to explain why married women's property laws were passed during this time period. Political and economic factors are the most commonly cited. For example, Norma Basch argued that the demise of coverture was partially feminists attack on the traditional patriarchal family structure (1979). She also argued that because courts created exceptions in coverture for wealthy women, political pressure for reform was pushed by women that were less well off (1979). Furthermore, Basch argues that because coverture had been created to function under the medieval agricultural monarchy of Great Britain, it was no longer necessary for the vastly different economy in the United States (1979).

On the other hand, Rick Geddes and Dean Lueck use an economic approach with a property-rights model to explain the demise of coverture (2002). They characterize the property rights structure under coverture as a principal-agent system in which the husband (the principal) controls and must monitor his wife (the agent). The property rights structure when there is no coverture (i.e., the current system) is a system of self-ownership in which the husband and wife are equals (and control and monitor themselves). Geddes and Lueck find that the passage of married women's property rights and earnings acts across the country were associated with increased wealth in the state and the growth of cities. The authors argue that this is because the increase in wealth and growth of cities created "greater potential returns to market work and human-capital investment [which increased] the gains from self-ownership" (i.e., there were greater gains from self-ownership when the market expanded resulting in enactments of property rights). Geddes and Lueck conclude that market expansion, the general growth of wealth,

and the increase in female human capital were the primary reasons for the development of married women's rights (Geddes and Lueck, 2002).

Although the common law model of coverture that has been discussed thus far was fairly prevalent in the U.S., it is important to note that nine states adopted a different system. Arizona, California, Idaho, Louisiana, Nevada, New Mexico, Texas, Washington, and Wisconsin used what is known as the community property system. The community property system was developed in Western Europe. It required that all property acquired during marriage be owned jointly by the husband and wife and did not allow the husband to will away the half of the community property that belonged to his wife. While husband and wife each had joint ownership over the community property, the property was to be managed and controlled by the husband. Thus, women lacked management and control rights in this system as well (Shammas 1994).

Married Women under Coverture

Although coverture legally deprived married women of many rights, married women did not completely lack power in a marriage. Studies show that women still had some bargaining power in marriage, depending on their assets, and some women even found ways to circumvent coverture. However, most women faced unfair circumstances due to the common law. Women tended to receive a smaller inheritance from their fathers in comparison to their brothers and they faced many restrictions when seeking a divorce.

Mary Beth Combs found that in Great Britain, where coverture existed until 1870, married women had some, although it tended to be very little, bargaining power during marriage (Combs, 2006). The wife's bargaining power was measured by her share of household wealth and the distribution of resources within the marriage. The bargaining

power of married women significantly increased after the passage of the 1870 British Married Women's Property Act. In the United States, Norma Basch also finds that married women had some bargaining power during coverture, which mostly depended on the wife's assets or her family's wealth before she married (1982). Basch finds that married women's bargaining power also increased in the United States after the passage of married women's property laws.

Not only did wealthy women have greater bargaining power, in cases concerning wealthy women courts were known to occasionally bend or even ignore married women's property laws (Basch, 1982; Basch, 1979). There were several ways in which daughters of wealthy families were able to circumvent the common law doctrine of coverture. One way was called a marriage settlement (Basch, 1982). If special circumstances existed (e.g. the wife had children from a previous marriage or she had significant dowry), a marriage settlement could be created, which would outline what was to be the wife's separate property. Another way was if the wife established an active trust, which would give management rights over the wife's property to a trustee instead of her husband.

Although wealthy women sometimes found ways to bend the women's property laws, overall, in the United States, daughters tended to receive a smaller bequest than their brothers (Basch, 1982). That is, fathers tended to give their sons more property than their daughters in their wills. Carol Shammas found that this trend changed somewhat after the passage of married woman's property laws (1994). Before the Civil War, Shammas finds that women held a negligible amount of property in the United States. After the passage of MWPA, there was a significant increase in the portions fathers and husbands gave to daughters and widows.

In addition to smaller inheritances, married women faced large obstacles in the pursuit of a divorce. Under coverture, if a husband and wife divorced, the husband did not have to forfeit his marital rights to his wife's property unless the divorce was due to adultery on the husbands part (Basch, 1982). In addition, in order to be entitled to the property she brought to the marriage, the wife had to show that her own behavior during the marriage was impeccable. Furthermore, because a wife was not allowed to sue in her own name, in a suit for separation from her husband the wife had to sue with a "next friend." A next friend is something similar to a natural guardian. In this sense, women were treated like children in court. In some cases, a wife had the power to petition a court for the status of *feme sole*. This was usually only obtainable if the husband had abandoned the wife or if he refused to support her. When this happened, the wife was not legally allowed to remarry.

Although these are only a few of the restrictions faced by married women under coverture, these examples clearly illustrate how much economic power men had over their wives during this time period.

Literature

The relevant literature for this study may be broken up into three main categories: general studies concerning the effects of the passage of married women's property laws, studies concerning the broad effects of granting property rights, and literature concerning labor force participation in the United States.

Effects of Married Women's Property Laws:

The literature examining the effect of legal reform on married women's behavior encompasses many opposing conclusions. Those papers that conclude that MWPA or

earnings acts affected women's behavior can be seen as evidence that these laws were successful in altering women's incentives.

However, Norma Basch, Richard H. Chused, and Evan Roberts argue that the expansion of married women's economic rights did not significantly affect women's behavior. In her 1979 paper, Norma Basch focused specifically on how married women's property acts were interpreted in courts and argues that the common law doctrine of coverture was resilient and so impressed on judges that the texts of the married women's property acts were often construed conservatively (Basch, 1979). However, Basch does not present any empirical evidence to support her claim. Richard Chused concluded that married women's property laws were ineffective after finding only a slight change in women's exercise of control over property (1983). Evan Roberts specifically studied the effect of greater economic rights on female labor market participation (2006). His findings suggest that there was only a slight effect on women's labor force participation immediately after the passage of these laws in every state.

My study is novel from that of Roberts in that I look at a slightly longer time period than he does. My data spans from 1870-1920 while Roberts studied data from 1860-1900. Furthermore, Roberts adopts the dates of passage of earnings acts and MWPA from Zorina B. Khan. I use the dates of passage established by Rick Geddes, Dean Lueck, and Sharon Tennyson (2008). Because Kahn had slightly different goals than Geddes et al in constructing her data, the dates reported in her paper differ from those reported by Geddes et al. As the dates of passage determined by Geddes et. al. were constructed through a process of extensive legal research and as the goals in their

paper are very similar to my own, I believe their dates of passage are more appropriate for this study.

Economic historians that believe that legal reform did affect married women's behavior include Carole Shammas, Zorina B. Kahn, and Mary Beth Combs. Shammas found that after the passage of the married women's property acts, the amount of wealth held by women increased dramatically (1994). Kahn's 1996 study suggests that married women's property laws encouraged greater patenting by women. Lastly, Mary Beth Combs also finds that the passage of the Married Woman's Property Act in Great Britain significantly increased the share of household property owned by women, increasing the bargaining and economic power of married women (1996).

Effects of Granting Property Rights

The conceptual framework for the present study is based on the notion that property rights have the ability to alter incentives and behavior. Studies that have sought to uncover the effects of granting property rights may be evidence to this idea. For example, a number of scholars have looked at how granting land titles to urban squatters in developing countries affect the behavior of squatter households. In Peru, Erica Field has found that granting property titles increased the labor supply of households by positively affecting tenure security (2007). Her paper specifically suggests that property rights can affect labor force participation, although it is through a different means that presented in my study. Sebastian Galiani and Ernesto Schargrodsky's 2005 study suggests that the granting of land titles significantly increased housing quality, decreased household size, and increased investments in the human capital of the children in squatter houses in Argentina. Furthermore, Timothy Besley found that establishment of property

rights in Ghana had a positive effect on investment decisions (1995). These papers suggest that granting of property rights has the ability to affect the choices and behavior of households and individuals.

Female Labor Force Participation

In order to study the effect of legal reform on female labor force participation during the selected time period of 1850 to 1920, it is beneficial to look at the trends and factors that affected the labor market during this time. John B. Durand's analysis of the labor force in the United States between 1890 and 1960 is a great reference for this, as is Claudia Goldin's article concerning the economic history of women in the United States (Durand, 1948; Goldin 1990).

Between 1890 and 1940 there was a growth in the overall labor force of the United States with a continuous increase in female labor force participation (Durand, 1948). Durand notes that the growing population during this time period was a factor in the growth of overall employment rates (1948). There were many other factors that were said to alter labor force participation rates. Demographic variables such as sex, race, nationality, and marital status were examples, because these factors determined the ability of individuals to be employed (Durand, 1948).

On average, women that were nonwhite tended to have greater labor force participation rates than those that were white, even after marriage (Durand, 1948; Goldin 1990). In fact, the employment rate of black married women was ten times higher than that of white married women in 1890 (Goldin, 1990). These differences have been attributed to the relative poor economic status of nonwhites which makes work necessary for them (Durand, 1948).

The nativity of individuals is another demographic variable that has been shown to affect labor force participation rates. Within cities, the labor force participation rate of white foreign-born women tended to be slightly lower than native white women in the United States during this time period (Durand, 1948). This is attributed to the different cultural standards of the nativity groups and the possible effect of language handicaps for non-native job seekers.

Furthermore, marital status was an important demographic variable in determining labor force participation for women (Durand, 1948; Goldin, 1990). Married women had much lower employment levels that single women during this time. However, both married and unmarried women experienced a significant increase in labor force participation between 1890 and 1940. The lower labor force participation rates of married women compared to single women have been attributed to greater household responsibilities and institutional and market constraints faced by married women (Goldin, 1990). Declining fertility rates during this time period may have played a small role in increased labor force participation rates by women (Durand, 1948).

The distribution of individuals within urban versus rural areas also affected labor force trends as "different customs regarding gainful employment exist in different types of communities" (Durand, 1948). The number of women engaged in gainful work was much higher in cities than in rural areas. Durand also points out that during this time period there was a major decrease in the number of individuals living on farms and argues that "the growth of the female labor force…has been accelerated by the movement away from farms" (1948). This argument falls in with the predictions of my current study.

The state of the economy has been another influential factor in the labor force market, at least in the long run. Economic changes during this time period, such as technological developments and the rise of per capita income, were said to reduce the participation of youths and the elder, while increasing that of women (Durand, 1948). Furthermore, because the labor market in the United States must function within a complex, ever changing set of laws and institutions, these laws also have the ability to affect the labor market (Carter, 2006).

IV. Research Design

The doctrine of coverature greatly restricted the economic rights of married women in the United States. The lack of property and earnings rights for married women meant that a husband had the ability to capture the fruits of his wife's labor. Thus, the lack of these rights may have caused women to stay out of the labor market. Because the expansion of married women's economic rights allowed married women to fully capture the benefits of their work, I hypothesize that these acts lead to increased female labor force participation in the United States. Furthermore, because women were able to fully capture the benefits of working, I hypothesize that these acts lead to a movement in women's labor from the agriculture to the higher paying manufacturing industry. I test out these hypotheses below.

1. Data Description

Summary statistics for all variables are reported in Table 2.

Independent Variables

1. Earnings Acts: This study looks at the effects of earnings acts. First, the earliest date of passage of earnings acts in each state was established. An earnings act is

defined as an act that grants married women the right to own her market earnings. The following is an example of an acceptable earnings act. The New York Session Laws, 1860, Ch. 90, p. 157 states:

> § 1. The property, both real and personal, which any married woman now owns, as her sole and separate property; that which comes to her by descent, devise, bequest, gift or grant; that which she acquires by her trade, business, labor or services, carried on or performed on her sole or separate account; that which a woman married in this state owns at the time of her marriage, and the rents, issues and proceeds of all such property, shall, notwithstanding her marriage, be and remain her sole and separate property, and may be used, collected and invested by her in her own name, and shall not be subject to the interference or control of her husband, or liable for his debts, except such debts as may have been contracted for the support of herself or her children, by her as his agent.
> § 2. A married woman may bargain, sell, assign and transfer her separate personal property, and carry on any trade or business, and perform any labor or services on her .sole and separate account, and the earnings of any married woman, from her trade, business, labor or services, shall be her sole and separate property, and may be used or invested by her in her own name.

Table 1 lists the years of enactment of married women's earnings acts as established by Geddes et al (2008). Because almost all of the married women's property acts and earnings acts were passed during the time period of 1850-1920 (see Figure 1), this is the time period in which I focus. An indicator variable of the passage of an earnings act in a state and year is used to estimate the effect of these acts.

2. Married Women's Property Acts: The effects of MWPA were also studied. Again, the earliest date of passage of earnings act for the first 48 states was established. During the history of the United States several different types of married women's property acts were passed across each state. As discussed in the literature, some of these acts were merely debt statutes. The Acts of Alabama, 1846, No. 20 (p. 25) states:

> §. 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.

This act merely protects a wife's assets from the debt collectors of her husband and does not grant any management or control rights for her.

I believe that because debt statutes did not grant full or effective property rights for women, they would not have the power to affect women's incentives or behavior. Thus, for this study I define a married women's property act as an act granting married women *management and control rights* over their separate estates and property. An acceptable married women's property act is in the Laws of Arizona, 1871, p. 18, which states:

> §1. Married women, of the age of twenty-one years and upwards, shall have the sole and exclusive control of their separate property; and may convey and transfer lands, or any estate or interest therein, vested in or held by them in their own right, and without being joined by the husband in such conveyance, as fully and perfectly as they might do if unmarried…

Geddes et. al, (2008) uses this same definition and Table 1 lists the years of enactment of the married women's property acts as established by them. Because Geddes et. al. determine that the passage of MWPA is correlated with the passage of earnings acts and because earnings acts seem as if the would have a more direct effect on female labor force participation rates, a separate indicator for MWPA is not studied. A variable indicating that a state had passed both MWPA and earnings act in a year is studied instead. MWPA were passed first in most states, therefore the earnings act indicator may also bed picking up the effects of having both acts.

Dependent Variables

All the dependent variables in this study were constructed from United States census data on "gainful workers."[1] A gainful worker is defined as an individual over a certain age who reports they were engaged in a gainful occupation (Hauser, 1949). Data on female gainful workers is available from 1870 and on.

There are a total of six dependent variables studied in this paper and they can be broken up into three main categories: two variables examine the female labor force participation rate, two examine female participation in the manufacturing and service industry, and two examine female participation in the agricultural industry. The following is a list and description of all six dependent variables:

1. Female Labor Force Participation Rate 1 (FLFPR1): The first dependent variable used to study female labor force participation is a measure of the percent of working age females engaged in gainful occupations (or the number of females engaged in gainful occupations over the total number of females that are of working age times 100). Figure 2 depicts the trend of this variable at the national level, showing an increase over the selected time period. The bump occurring around 1910 may be attributed to the fact that the 1910 census included special instructions for census data collectors that increased the number of women who were considered as gainful workers (Carter, 2006).

2. Female Labor Force Participation Rate 2 (FLFPR2): The second dependent variable used to study women's labor force participation is the percent of the labor fore that is female (or the number of females engaged in gainful occupations over the total number of individuals, male and female, engaged in gainful occupations times 100).

[1]For more information on the quality of this census data, please refer to the note on this at end of paper and/or to Hauser (1948).

Figure 3 depicts the trend of this variable at the national level, showing that this variable also increased over the selected time period.

3. Female Participation in Manufacturing Industry 1: The first dependent variable used to study female participation in the manufacturing and service industries is a measure of the percent of gainfully employed females that are engaged in manufacturing and the service industries (or the number of females engaged in manufacturing and the service industry over the total number of gainfully employed females times 100).

4. Female Participation in Manufacturing Industry 2: The second dependent variable used to study female participation in the manufacturing and service industries is the percent of all individuals engaged in the manufacturing and service industry that are females (or the number of females engaged in manufacturing and service over the total number of individuals, male and female, engaged in manufacturing and service times 100).

5. Female Participation in Agriculture 1: The first dependent variable used to study female participation in agriculture is the percent of gainfully employed females that are engaged in agriculture (or the number of females engaged in agriculture over the total number of females gainfully employed times 100). Figure 4 compares the national trend of this variable to the variable "female participation in manufacturing industry 1."

6. Female Participation in Agriculture 2: The second dependent variable used to study female participation in agriculture is a measure of the percent of all individuals engaged in agriculture that are females (or the number of females engaged in agriculture over the total number of individuals, male and female, engaged in agriculture times 100).

Figure 5 depicts the trend of this variable and of the variable "female participation in manufacturing industry 2."

Control Variables

Control variables are used to control for the many other factors that affected the overall labor force participation rate and in particular the female labor force participation rate as explained by Durand (1948) and Goldin (1990). All data for the control variables has been collected from U.S. Census materials. The following are the control variables used in this study:

1. Total State Wealth: Total state wealth measures the total wealth of each state in real 1982 dollars. This variable is used as a control for different economic circumstances across states as this could affect a state's labor force participation rate.

2. Percent Foreign Born: Percent foreign born is a measure of the fraction of the total population that is foreign born. An individual was defined by the U.S. Census Bureau as foreign born from 1850 -1880 if they were born in a foreign country. After 1890, individuals who were born in a different country, but who had at least one parent that was an American citizen were defined as native. Percent foreign born is used as a control for nativity as this is a demographic factor that has been shown to affect the labor force participation rate of women.

3. Percent Black: Percent black is a measure of the percent of the total population that is black. Race is another demographic factor that has been shown to greatly affect labor force participation rates.

4. Percent Female Literate: This variable is a measure of the literacy of the female population. It was previously constructed by Geddes et al (2008). It is a ratio of the

female population that is literate to the total female population. Literacy of the female population is used as a control for compulsory schooling laws. If females had to spend more time in school, then they were unlikely to be employed, lowering the overall female labor force participation rate.

5. Percent Male: This variable is measure of the percent of the population that is male. It is used as a control for population size.

6. Percent Urban: Percent urban measures the fraction of the total population that resides in urban areas. An urban area was defined by the U.S. Census Bureau as an area of 8,000 individuals or more. This variable controls for the higher employment rates that are found in urban versus rural areas.

7. 1870 Dummy: A dummy variable for 1870 is used to control for the effects of the Civil War. It is possible that the Civil War may have affected the number of women engaged in gainful occupations. As men were involved in fighting, women may have had to take over work.

8. State Fixed Effects: These effects are included in the model to control for the fact that states will have permanent differences in labor force participation rates, regardless of other variables.

9. State Specific Time Trends: These effects are included to control for existing trends in labor force participation (i.e. those trends that would have happened over time had women's property laws been passed or not).

2. Empirical Model

A regression analysis was used to estimate the effect of the passage of earnings acts and earnings acts plus MWPA on female labor force participation. The estimating

equation used to estimate the effect of the passage of these laws on female labor force participation rate is as follows:

$$FLFPR_{st} = \alpha + \beta_1 (\text{passage of law})_{st} + \beta_2 (\text{total state wealth})_{st} + \beta_4 (\text{percent foreign born})_{st} + \beta_5 (\text{percent black})_{st} + \beta_6 (\text{percent female literate})_{st} + \beta_7 (\text{percent male})_{st} + \beta_8 (\text{percent urban})_{st} + \beta_9 (1870\ \text{Dummy})_{st} + State*Year_{st} + State_s + \varepsilon_i$$

In this study, regressions were first run according to the above equation with a dummy variable indicating whether a state had an earnings act in a year. Then the same regressions were run with a dummy variable indicating whether a state had both a married women's property act and earnings act in a year. These regressions were used to study the effect of greater economic rights on labor force participation.

A very similar model was used to estimate the effects of these laws on the participation of women in the manufacturing industry and agriculture:

$$\text{Participation of Women in Manufacturing/Agricultural Industry}_{st} = \alpha + \beta_1 (\text{passage of law})_{st} + \beta_2 (\text{total state wealth})_{st} + \beta_4 (\text{percent foreign born})_{st} + \beta_5 (\text{percent black})_{st} + \beta_6 (\text{percent female literate})_{st} + \beta_7 (\text{percent male})_{st} + \beta_8 (\text{percent urban})_{st} + \beta_9 (1870\ \text{Dummy})_{st} + State*Year_{st} + State_s + \varepsilon_i$$

Again, indicator variables were used for states with earnings acts in a year and both MWPA and earnings acts in a year.

V. Results

OLS estimates are reported in Tables 3 through 17. Each table consists of four models. The first model (Model 1) is a regression with the basic control variables, excluding the state-specific time trends control and the state fixed effects control. The second model (Model 2) includes the basic controls plus the state specific time trends

control, but not the state fixed effects control. The third model (Model 3) includes the basic controls and the state fixed effects control, excluding the state specific time trends control. Lastly, the fourth model (Model 4) includes all the control variables.

All results are presented with robust standard errors. That is, outliers that affect the distribution of the data are dropped from the model in order to produce more normally distributed estimates. Furthermore, all coefficients are presented as percentages. For example, the Earnings Acts indicator in Table 3, Model 1 has a coefficient of 4.592. This estimate shows that the earnings act increased the percent of working age females that were employed by 4.592 percent (which is statistically significant at the 10 percent confidence level, when only basic controls are used).

1. Female Labor Force Participation

Tables 3 and 4 report OLS estimates of the effects of earnings acts and having both acts in a year, respectively, on FLFPR1 (or the percent of working age females engaged in gainful work). The effect of the acts is to increase the percent of working age females that are employed by about 5 percent at statistically significant levels in Models 1 and 2 in both tables. However, adding the state fixed effects control (Model 3) and then state fixed effects with the state specific time trends (Model 4), decreases the magnitude of the effects of the acts and also makes the effects statistically insignificant in both tables

Tables 5 and 6 report OLS estimates of the effects of earnings acts and having both acts in a year, respectively, on FLFPR2 (or the percent of the labor force that is female). The magnitude of the effect of the acts is very small, less than half a percentage point, in all eight regressions. Again, both tables have positive and statistically

significant values for the acts indicators in Model 1 and Model 2. However, the effects of the acts are insignificant in Model 3 and Model 4.

2. Female Participation in Manufacturing

Tables 7 and 8 report the OLS estimates of the effects of earnings acts and having both acts, respectively, on the percent of the gainfully employed females that are engaged in manufacturing and service (or female participation in manufacturing industry 1). The earnings act indicator is positive and statistically significant when all controls are added, implying that an earnings act increases the percent of working women employed in manufacturing by about 4 percent (Model 4, Table 7). However it is insignificant in every other regression (Models 1-3). The indicator for both acts was not significant in any model (see Table 8).

Tables 9 and 10 report the OLS estimates of the effects of the acts on the percent of all individuals engaged in manufacturing that are female (or female participation in manufacturing industry 2). The earnings act indicator was positive and statistically significant when basic controls were added (Model 1) and basic controls plus the state specific time trends control were used (Model 2), but was not significant in any other regression (see Table 9). Table 10 shows that the indicator for both acts was positive and statistically significant in Model 1 and Model 2 as well, but insignificant in Model 3 and Model 4. Both tables show that the acts increased the percent of all individuals that were engaged in manufacturing that were female by about 2-3 percent with basic controls and with basic controls plus state specific time trends. However, the addition of a control for state fixed effects lead to a loss in the statistically significant effects of the acts.

Tables 15 and 16 report the effect of earnings acts on female participation in manufacturing when community property states are excluded from the data. As can be seen, the significant effects that were seen in Table 7 (Model 4) and Table 9 (Model 1 and Model 2) are lost. This may imply that the effects reported on these tables were not common law effects.

3. Female Participation in Agriculture

The next set of tables (Tables 11 and 12) report the OLS estimates of the effects of the acts on the percent of gainfully employed females engaged in agriculture (or female participation in agriculture 1). The earnings indicator showed significant results (Table 11). Table 11 shows a negative and statistically significant effect of the earnings act in three of the four models, including the model with all controls (Models 1, 2, and 4). The model with all controls shows that having an earnings act seems to decrease the percent of working women engaged in agriculture by about 2.7 percent (at a 10 percent confidence level). However, when community property states are omitted from the data, the effect of the earnings act become insignificant in Models 1 and 2 and the magnitude of the effect in Model 4 is reduced to less than half a percentage point (see Table 17). This implies that the effects found in Table 11 are also not common law effects. The indicator variable for both acts had all insignificant results (Table 12). Furthermore, the acts did not significantly affect the percent of individuals engaged in agriculture that are female in any regrssion (see Table 13 and 14).

VI. Analysis

Overall, these results do not support my hypotheses. At first, the acts seemed to increase the labor force participation rate (for both dependent variables used to measure

this), however the addition of the state-fixed effects controls (and state fixed plus state specific time trend controls) made this effect statistically insignificant. State fixed effects control for the fact that states will have permanent differences in labor force participation rates. Thus, the fact that these controls cause the effect of the acts to be insignificant may be because states that passed laws tended to already have higher female labor force participation rates. That is, the laws are endogenous to other variables in the model. This seems to agree with Geddes' and Lueck's suggestion that the laws are endogenous to schooling and literacy (2002).

Initially, my results also suggested that earnings acts may have created incentives for women to move towards occupations in the manufacturing industry (see Model 4, Table 7; Models 1 and 2, Table 9; and Models 1 and 2, Table 10). However, as was the case with labor force participation variables, most of the statistically significant effects were lost with the addition of stated fixed effects controls, implying that the laws may have been endogenous to other variables in these models as well. Furthermore, when community property states were dropped from the regressions most of the effects that had been significant were no longer significant (see Tables 15 and 16). This implies that the effects that had been found were not common law effects. All these results seem to suggest that the acts did not have a significant affect on female participation in the manufacturing industry.

The results concerning the effect of greater economic rights on female participation in agriculture also show similar results. Table 11 seems to suggest that earnings acts may have lead to a movement away from agriculture. However, when community property states were dropped from the regressions, the significance and

magnitude of the effect dropped greatly, implying that the effects found in Table 11 were not common law effects. The effects of the indicator for both acts are statistically insignificant (Table 12) as are the effects of the acts on the percent o the individuals engaged in agriculture that are female (see Tables 13 and 14).

VI. Conclusion/Discussion

This paper studies the effect of legal change on women's behavior. Specifically, I look at the effect of married women's property rights and earnings acts on female labor force participation. Overall, my results seem to suggest that women participation in the labor force or across industries did not change significantly with the granting of greater economic rights for women. Data involving marital status may be useful for future studies in order to distinguish the effect of the acts on married and unmarried women as these acts were specifically directed towards married women. Furthermore, a better source of women's employment would most likely alter the results (see note on quality of census data). This study has promise for understanding the possible effects of greater economic rights for women in many different countries.

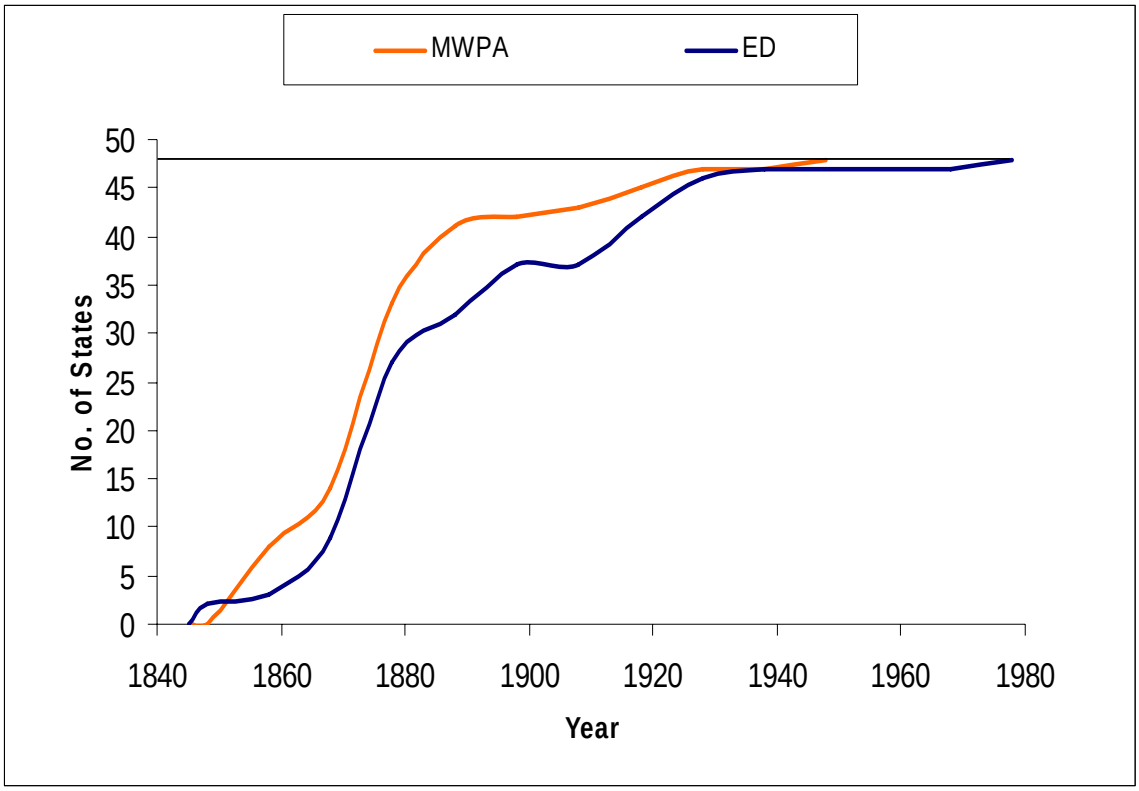
Note on Quality of Census Data

The concept of labor force was changed in 1940, altering the way in which the labor force was measured by the U.S. census. Many scholars argue that this may have affected the accuracy of measures of female labor force participation before 1940 (see Goldin, 1986; Carter, 2006, for a few examples. Before 1940, the "gainful worker" concept was used and individuals were counted if they had an occupation during the census year. After 1940, the "labor force" concept was adopted, and with this concept an individual was only considered part of the labor force if they were employed during the week that the survey had been taken, or were currently searching for work. Furthermore, scholars also argue that women themselves may have underreported their working status to census data collectors (see Goldin, 1986; Carter, 2006 for a few examples). Lastly, it has been claimed that women who were boarding house keepers and farm workers were undercounted by census collectors. This is important because the majority of women in these occupations were married women (Goldin, 1986).

Claudia Goldin addresses some of these issues in her 1986 paper. She has found that the change in concepts "does not necessarily overcount, nor does in necessarily undercount, female workers" and that "it does not appear that these two definitions would have produced very different labor force results for either single or married women" (Goldin, 1986). Goldin also compared census data to two surveys: the *Sixth and Seventh Annual Reports of the Commissioner of Labor* (United States Commissioner of Labor, 1890, 1891), which noted the income earned by every member in an industrial family. She finds that the surveys support the census data. However, she does find that women

who were farm workers and boarding house keepers were undercounted, and suggests adjustments for these measures.

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



Source: Geddes, et al, 2008.

Table 1
Married Women's Property and Earnings Acts
Dates of Passage

State	Property	Earnings	State	Property	Earnings
AL	>1920	1887	NE	1871	1871
AZ	1871	1973	NV	1873	1873
AR	1873	1873	NH	1860	1867
CA	1872	1872	NJ	1852	1874
CO	1861	1861	NM	1884	>1920
CT	1877	1877	NY	1848	1860
DE	1873	1873	NC	1868	1913
FL	1943	1892	ND	1877	>1920
GA	1873	1861	OH	1861	1861
ID	1903	1915	OK	1883	1910
IL	1861	1869	OR	1878	1872
IN	1879	1879	PA	1848	1872
IA	1873	1873	RI	1848	1872
KS	1858	1858	SC	1870	1887
KY	1894	1873	SD	1877	>1920
LA	1916	1928	TN	1919	1919
ME	1855	1857	TX	1913	1913
MD	1860	1842	UT	1872	1897
MA	1855	1846	VT	1881	1888
MI	1855	1911	VA	1877	1888
MN	1869	1869	WA	1881	1881
MS	1880	1873	WV	1868	1893
MO	1875	1875	WI	1850	1872
MT	1887	1887	WY	1869	1869

Source: Geddes et al, 2008

Figure 2: National Female Labor Force Participation Rate (1) Trend

(Percent of Working Age Females that are Gainfully Employed)

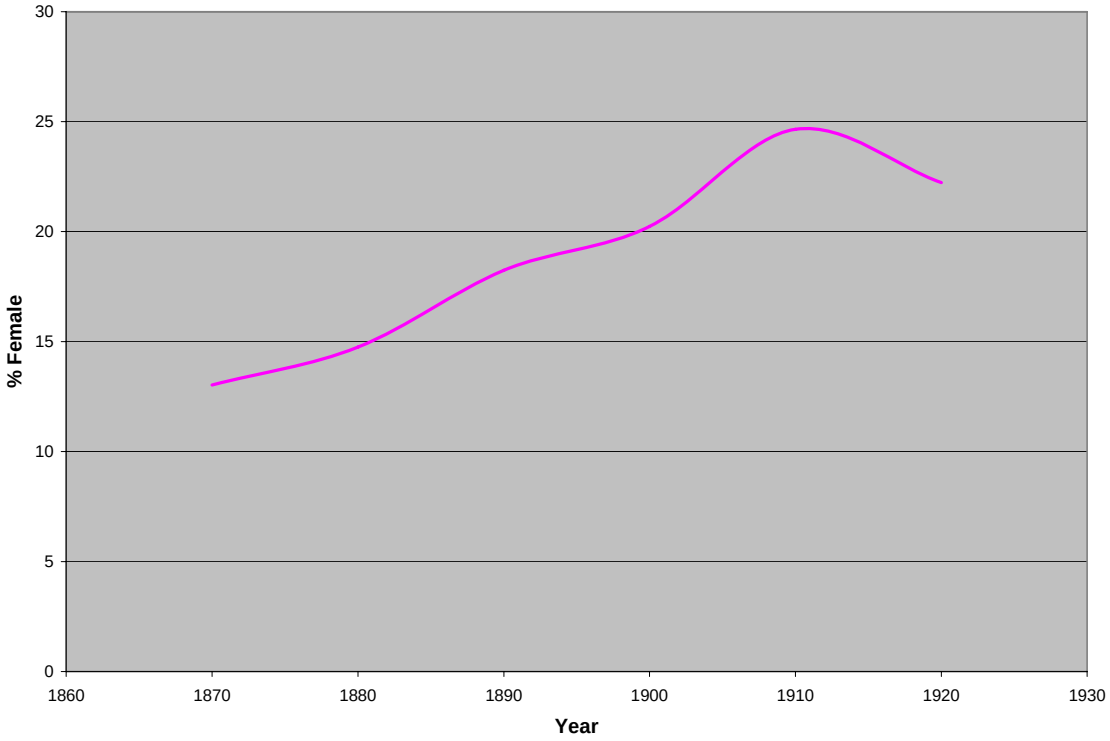


Figure 3: National Female Labor Force Participation Rate (2) Trend

(Percent of the Labor Force that is Female)

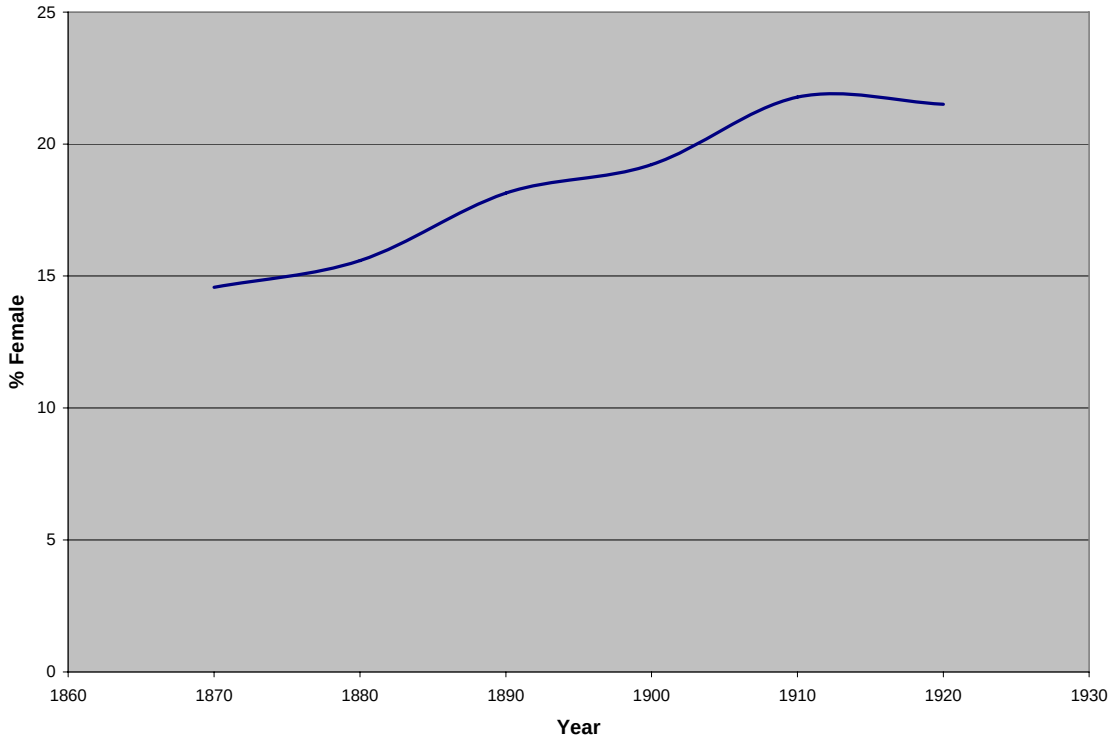


Figure 4: National Trend of Female Participation in Manufacturing and Agriculture (Percent of Gainfully Employed Females that are engaged in Each Industry)

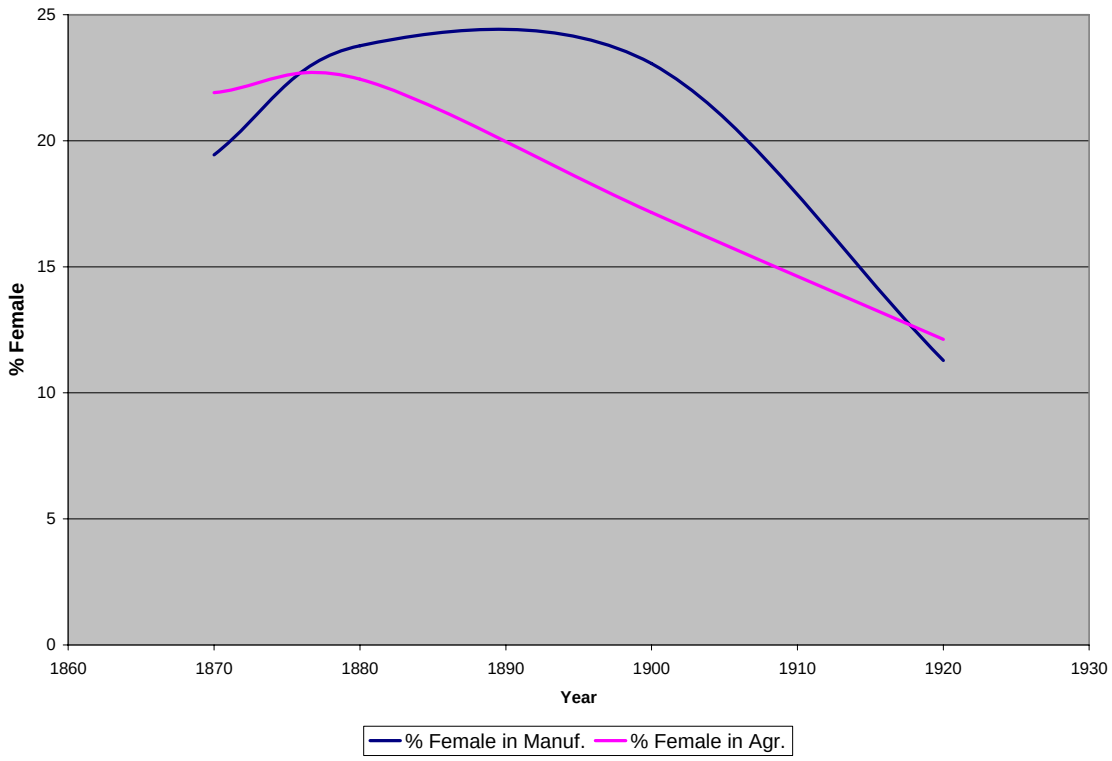


Figure 5: National Trend of Female Participation in Manufacturing and Agriculture (The Percent of Industry that is Female)

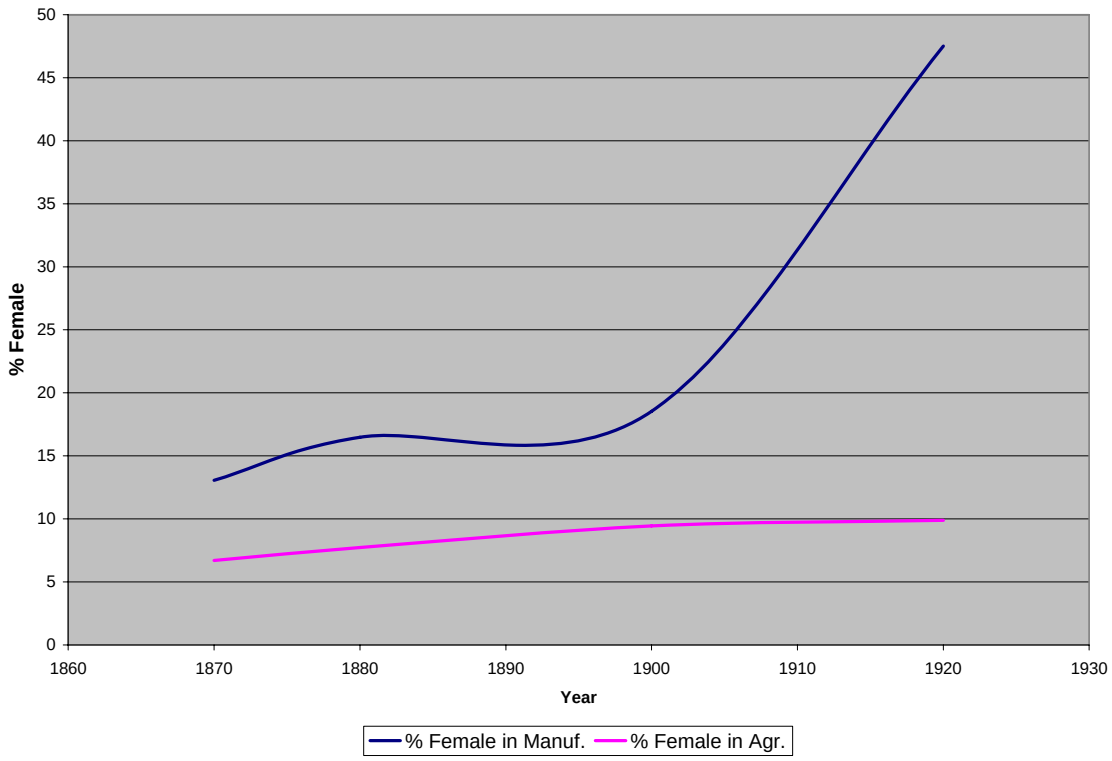


Table 2
Summary Statistics
State Data for Census Years 1850-1920

Variable	Obs.	Mean	S.D.
Earnings Act	384	.555	.498
Women's Property Act	384	.646	.479
Both Acts	384	.544	.499
Female Labor Force Participation Rate (1)	282	18.227	15.923
Female Labor Force Participation Rate (2)	282	0.166	0.084
Female Participation in Manufacturing (1)	186	56.576	31.880
Female Participation in Manufacturing (2)	190	20.807	9.01
Female Participation in Agriculture (1)	184	15.287	21.424
Female Participation in Agriculture (2)	186	5.511	7.616
Total State Wealth in Real Dollars	358	2.06e+10	3.39e+10
Percent Foreign Born	365	14.448	11.473
Percent Black Population	360	11.995	17.681
Percent Female Literate	360	85.364	15.569
Percent Male Population	359	53.286	6.050
Percent Urban Population	360	26.911	20.940
1870 Dummy	384	0.125	0.331

Table 3
OLS Estimates of Impact of Earnings Acts on Female Labor Force Participation (1)
State Data 1870-1920

Dependent variable = (Females Gainfully Employed / All Females over the age of 10)*100

	Model 1	**Model 2**	**Model 3**	**Model 4**
Earnings Act indicator	4.592	5.223	1.840	1.771
	(1.91)*	(2.17)**	(0.65)	(0.63)
Total State Wealth	0.000	0.000	0.000	0.000
	(0.09)	(-0.57)	(0.68)	(0.36)
Percent Foreign Born	0.126	0.253	0.046	0.164
	(0.94)	(1.83)*	(0.19)	(0.66)
Percent Black	0.481	0.438	-0.066	-0.146
	(5.77)***	(5.27)***	(-0.13)	(-0.29)
Percent Female Literate	0.053	-0.058	0.267	0.131
	(0.59)	(-0.63)	(2.23)**	(0.93)
Percent Male	-0.226	-0.383	0.010	-0.113
	(-0.94)	(-1.58)	(0.02)	(-0.26)
Percent Urban	0.101	0.052	0.151	-0.038
	(1.51)	(0.77)	(1.18)	(-0.23)
1870 Dummy	-3.233	(dropped)	-0.603	(dropped)
	(-1.19)		(-0.22)	
Intercept	12.437	23.701	10.952	27.005
	(0.86)	(1.56)	(0.31)	(0.78)
State-Specific Time Trends	No	Yes	No	Yes
State Fixed Effects	No	No	Yes	Yes
R^2	0.234	0.288	0.578	0.607
Number of Observations	280	280	280	280

Dependent variable is (Females Gainfully Employed) / (All Females over the age of 10). All models utilize robust standard errors. T-statistic appears in parentheses below the coefficient estimate. *** indicates significantly different from zero at the 1 percent confidence level; ** indicates significantly different from zero at the 5 percent confidence level; * indicates significantly different from zero at the 10 percent confidence level; all are two-sided tests.

Table 4
OLS Estimates of Impact of Both Acts on Female Labor Force Participation (1)
State Data 1870-1920

Dependent variable = (Females Gainfully Employed / All Females over the age of 10)*100

	Model 1	**Model 2**	**Model 3**	**Model 4**
Both Acts indicator	5.090	5.468	2.542	1.909
	(2.17)**	(2.33)**	(0.89)	(0.66)
Total State Wealth	0.0000	0.0000	0.0000	0.0000
	(0.05)	(-0.60)	(0.69)	(0.36)
Percent Foreign Born	0.120	0.257	0.050	0.162
	(0.97)	(1.86)*	(0.21)	(0.65)
Percent Black	0.490	0.449	-0.086	-0.168
	(5.95)***	(5.45)***	(-0.17)	(-0.33)
Percent Female Literate	0.055	-0.052	0.268	0.134
	(0.63)	(-0.57)	(2.23)**	(0.95)
Percent Male	-0.224	-0.384	0.002	-0.114
	(-0.93)	(-1.58)	(0.01)	(-0.27)
Percent Urban	0.010	0.051	0.145	-0.033
	(1.50)	(0.75)	(1.14)	(-0.20)
1870 Dummy	-2.919	(dropped)	-0.248	(dropped)
	(-1.07)		(-0.09)	
Intercept	11.664	23.229	11.757	27.837
	(0.81)	(1.53)	(0.33)	(0.80)
State-Specific Time Trends	No	Yes	No	Yes
State Fixed Effects	No	No	Yes	Yes
R^2	0.237	0.290	0.579	0.607
Number of Observations	280	280	280	280

Dependent variable is (Females Gainfully Employed) / (All Females over the age of 10). All models utilize robust standard errors. T-statistic appears in parentheses below the coefficient estimate. *** indicates significantly different from zero at the 1 percent confidence level; ** indicates significantly different from zero at the 5 percent confidence level; * indicates significantly different from zero at the 10 percent confidence level; all are two-sided tests.

Table 5
OLS Estimates of Impact of Earnings Acts on Female Labor Force Participation (2)
State Data 1870-1920

Dependent variable = (Females Gainfully Employed / All Individuals Gainfully Employed)*100

	Model 1	**Model 2**	**Model 3**	**Model 4**
Earnings Acts indicator	0.022	0.024	0.002	-0.0004
	(2.58)**	(2.80)***	(0.25)	(-0.04)
Total State Wealth	0.0000	0.0000	0.0000	0.0000
	(0.31)	(-0.78)	(1.43)	(0.17)
Percent Foreign Born	0.001	0.002	-0.001	-0.0004
	(1.64)	(3.24)***	(-1.69)*	(-0.49)
Percent Black	0.003	0.003	0.0002	0.001
	(10.71)***	(10.16)***	(0.14)	(0.38)
Percent Female Literate	0.0002	-0.0003	0.0005	-0.001
	(0.63)	(-1.08)	(1.11)	(-1.14)
Percent Male	-0.005	-0.006	-0.001	-0.001
	(-6.13)***	(-7.29)***	(-0.81)	(-0.88)
Percent Urban	0.001	0.001	0.002	0.001
	(5.36)***	(4.06)***	(4.49)***	(1.11)
1870 Dummy	-0.015	(dropped)	-0.006	(dropped)
	(-1.57)		(-0.63)	
Intercept	0.327	0.392	0.250	0.270
	(6.27)***	(7.30)***	(2.04)**	(2.26)**
State-Specific Time Trends	No	Yes	No	Yes
State Fixed Effects	No	No	Yes	Yes
R^2	0.634	0.674	0.812	0.828
Number of Observations	280	280	280	280

Dependent variable is (Females Gainfully Employed) / (All Individuals Gainfully Employed). All models utilize robust standard errors. T-statistic appears in parentheses below the coefficient estimate. *** indicates significantly different from zero at the 1 percent confidence level; ** indicates significantly different from zero at the 5 percent confidence level; * indicates significantly different from zero at the 10 percent confidence level; all are two-sided tests.

Table 6
OLS Estimates of Impact of Both Acts on Female Labor Force Participation (2)
State Data 1870-1920

Dependent variable = (Females Gainfully Employed / All Individuals Gainfully Employed)*100

	Model 1	**Model 2**	**Model 3**	**Model 4**
Both Acts indicator	0.026	0.026	0.006	0.001
	(3.04)***	(3.27)***	(0.58)	(0.05)
Total State Wealth	0.0000	0.0000	0.0000	0.0000
	(0.26)	(-0.83)	(1.47)	(0.18)
Percent Foreign Born	0.001	0.002	-0.001	-0.0004
	(1.68)*	(3.30)***	(-1.67)*	(-0.49)
Percent Black	0.003	0.003	0.0002	0.001
	(11.00)***	(10.45)***	(0.12)	(0.38)
Percent Female Literate	0.0002	-0.0003	0.0005	-0.001
	(0.65)	(-1.09)	(1.10)	(-1.14)
Percent Male	-0.005	-0.006	-0.001	-0.001
	(-6.14)***	(-7.32)***	(-0.83)	(-0.89)
Percent Urban	0.001	0.001	0.002	0.0006
	(5.36)***	(4.03)***	(4.44)***	(1.10)
1870 Dummy	-0.014	(dropped)	-0.004	(dropped)
	(-1.38)		(-0.47)	
Intercept	0.323	0.391	0.251	0.270
	(6.24)***	(7.33)***	(2.05)**	(2.26)**
State-Specific Time Trends	No	Yes	No	Yes
State Fixed Effects	No	No	Yes	Yes
R^2	0.637	0.677	0.812	0.828
Number of Observations	280	280	280	280

Dependent variable is (Females Gainfully Employed) / (All Individuals Gainfully Employed). All models utilize robust standard errors. T-statistic appears in parentheses below the coefficient estimate. *** indicates significantly different from zero at the 1 percent confidence level; ** indicates significantly different from zero at the 5 percent confidence level; * indicates significantly different from zero at the 10 percent confidence level; all are two-sided tests.

Table 7
OLS Estimates of Impact of Earnings Acts on Females Participation in Manufacturing (1)
State Data 1870-1920

Dependent variable = (Females Engaged in Manufacturing / All Gainfully Employed Females)*100

	Model 1	**Model 2**	**Model 3**	**Model 4**
Earnings Acts indicator	1.964	3.227	-0.385	4.058
	(0.42)	(1.53)	(-0.08)	(1.80)*
Total State Wealth	0.0000	0.0000	0.0000	0.0000
	(-2.71)***	(-2.34)**	(-0.17)	(0.03)
Percent Foreign Born	0.812	-0.015	1.198	0.534
	(3.12)***	(-0.13)	(2.98)***	(2.65)***
Percent Black	-0.913	-0.715	-0.843	-0.681
	(-5.86)***	(-10.39)***	(-1.08)	(-1.81)*
Percent Female Literate	-0.307	0177	-0.466	0.271
	(-1.95)*	(2.44) **	(-2.40)**	(2.47)**
Percent Male	-1.015	-0.067	-0.039	0.020
	(-2.30)**	(2.44)**	(-0.06)	(0.06)
Percent Urban	-0.082	0.268	-1.404	-0.282
	(-0.63)	(4.50)***	(-6.51)***	(-2.09)**
1870 Dummy	0.617	60.393	5.084	49.286
	(6.28)***	(12.50)***	(1.22)	(8.29)***
Intercept	29.478	14.858	101.598	10.054
	(5.04)***	(1.13)	(1.82)*	(0.37)
State-Specific Time Trends	No	Yes	No	Yes
State Fixed Effects	No	No	Yes	Yes
R^2	0.535	0.915	0.814	0.960
Number of Observations	184	184	184	184

Dependent variable is (Females Engaged in Manufacturing) / (All Gainfully Employed Females). All models utilize robust standard errors. T-statistic appears in parentheses below the coefficient estimate. *** indicates significantly different from zero at the 1 percent confidence level; ** indicates significantly different from zero at the 5 percent confidence level; * indicates significantly different from zero at the 10 percent confidence level; all are two-sided tests.

Table 8
OLS Estimates of Impact of Both Acts on Females Participation in Manufacturing (1)
State Data 1870-1920
Dependent variable = (Females Engaged in Manufacturing / All Gainfully Employed Females)*100

	Model 1	**Model 2**	**Model 3**	**Model 4**
Both Acts indicator	1.752	2.210	-2.071	3.049
	(0.38)	(1.07)	(-0.45)	(1.34)
Total State Wealth	0.000	0.000	0.000	0.000
	(-2.71)***	(-2.34)**	(-0.74)	(-0.07)
Percent Foreign Born	0.811	0.019	1.189	0.533
	(3.12)***	(-0.15)	(2.96)	(2.63)***
Percent Black	-0.910	-0.708	-0.845	-0.726
	(-5.86)***	(-10.29)***	(-1.09)	(-1.92)*
Percent Female Literate	-0.302	0.193	-0.464	0.278
	(-1.95)*	(2.70)***	(-2.40)	(2.53)**
Percent Male	-1.015	-0.070	-0.027	-0.020
	(-2.30)**	(-0.35)	(-0.04)	(-1.95)
Percent Urban	0.081	0.271	-1.385	-0.264
	(-0.62	(4.53)***	(-6.47)***	(-1.95)*
1870 Dummy	29.444	60.270	4.391	49.200
	(6.24)***	(12.43)***	(1.04)	(8.17)***
Intercept	131.679	14.356	101.789	11.824
	(5.03)***	(1.09)**	(1.82)	(0.43)***
State-Specific Time Trends	No	Yes	No	Yes
State Fixed Effects	No	No	Yes	Yes
R^2	0.499	0.914	0.676	0.953
Number of Observations	184	184	184	184

Dependent variable is (Females Engaged in Manufacturing) / (All Gainfully Employed Females). All models utilize robust standard errors. T-statistic appears in parentheses below the coefficient estimate. *** indicates significantly different from zero at the 1 percent confidence level; ** indicates significantly different from zero at the 5 percent confidence level; * indicates significantly different from zero at the 10 percent confidence level; all are two-sided tests.

Table 9
OLS Estimates of Impact of Earnings Acts on Female Participation in Manufacturing (2)
State Data 1870-1920

Dependent variable = (Females Engaged in Manufacturing / All Engaged in Manufacturing)*100

	Model 1	**Model 2**	**Model 3**	**Model 4**
Earnings Acts indicator	2.203	2.001	-1.737	-1.796
	(1.98)**	(1.81)*	(-1.50)	(-1.59)
Total State Wealth	0.0000	0.0000	0.0000	0.0000
	(1.98)**	(-0.62)	(-1.01)	(-0.55)
Percent Foreign Born	0.198	0.150	-0.141	-0.199
	(-3.46)***	(2.51)**	(-1.47)	(-2.01)**
Percent Black	0.082	0.098	0.350	0.368
	(2.22)**	(2.70)**	(1.80)*	(1.95)*
Percent Female Literate	-0.135	-0.103	-0.228	-0.144
	(3.63)***	(-2.67)**	(-4.72)***	(-2.64)***
Percent Male	-1.245	-1.192	-0.746	-0.788
	(-12.10)	(-11.49)***	(-4.38)***	(-4.78)***
Percent Urban	-0.022	0.002	0.041	0.139
	(-0.74)	(0.07)	(0.76)	(2.06)**
1870 Dummy	4.124	(dropped)	1.902	(dropped)
	(3.75)***		(1.84)*	
Intercept	93.086	92.598	62.475	62.409
	(15.17)***	(14.51)***	(4.49)***	(4.72)***
State-Specific Time Trends	No	Yes	No	Yes
State Fixed Effects	No	No	Yes	Yes
R^2	0.403	0.686	0.848	0.866
Number of Observations	186	186	186	186

Dependent variable is (Females Engaged in Manufacturing) / (All Individuals Engaged in Manufacturing). All models utilize robust standard errors. T-statistic appears in parentheses below the coefficient estimate. *** indicates significantly different from zero at the 1 percent confidence level; ** indicates significantly different from zero at the 5 percent confidence level; * indicates significantly different from zero at the 10 percent confidence level; all are two-sided tests.

Table 10
OLS Estimates of Impact of Both Acts on Female Participation in Manufacturing (2)
State Data 1870-1920

Dependent variable = (Females Engaged in Manufacturing / All Engaged in Manufacturing)*100

	Model 1	**Model 2**	**Model 3**	**Model 4**
Both Acts indicator	2.839	2.542	-1.574	-1.683
	(2.65)***	(2.38)**	(-1.37)	(-1.48)
Total State Wealth	0.000	0.000	0.000	0.000
	(-1.01)	(-0.67)	(-0.95)	(-0.51)
Percent Foreign Born	0.200	0.151	-0.143	-0.199
	(3.51)***	(2.55)**	(-1.48)	(-2.00)**
Percent Black	0.085	0.100	0.367	0.387
	(2.33)	(2.80)***	(1.89)*	(2.05)**
Percent Female Literate	-0.138	-0.105	-0.230	-0.148
	(-3.80)***	(-2.80)***	(-4.77)***	(-2.70)***
Percent Male	-1.244	-1.191	0.037	-0.788
	(-12.19)	(-11.56)	(0.69)	(-4.77)***
Percent Urban	-0.024	-0.0001	1.914	0.133
	(-0.83)	(-0.00)	(1.82)*	(-1.98)**
1870 Dummy	4.420	(dropped)	4.391	(dropped)
	(4.03)***		(1.04)	
Intercept	92.794	14.356	61.756	61.671
	(15.26)***	(1.09)	(4.43)***	(4.66)***
State-Specific Time Trends	No	Yes	No	Yes
State Fixed Effects	No	No	Yes	Yes
R^2	0.665	0.690	0.848	0.866
Number of Observations	186	186	186	186

Dependent variable is (Females Engaged in Manufacturing) / (All Individuals Engaged in Manufacturing). All models utilize robust standard errors. T-statistic appears in parentheses below the coefficient estimate. *** indicates significantly different from zero at the 1 percent confidence level; ** indicates significantly different from zero at the 5 percent confidence level; * indicates significantly different from zero at the 10 percent confidence level; all are two-sided tests.

Table 11
OLS Estimates of Impact of Earnings Acts on Female Participation in Agriculture (1)
State Data 1870-1920
Dependent variable = (Females Engaged in Agriculture / All Gainfully Employed Females)*100

	Model 1	**Model 2**	**Model 3**	**Model 4**
Earnings Acts indicator	-3.445	-3.879	-2.523	-2.702
	(-1.75)*	(-2.00)**	(-1.58)	(-1.67)*
Total State Wealth	0.0000	0.0000	0.0000	0.0000
	(1.75)*	(1.29)	(-0.60)	(-0.77)
Percent Foreign Born	0.159	0.276	-0.305	-0.237
	(1.48)	(2.50)**	(-2.19)**	(-1.62)*
Percent Black	0.997	0.963	1.571	1.561
	(15.41)***	(15.19)***	(5.89)***	(5.82)***
Percent Female Literate	-0.074	-0.125	-0.052	-0.131
	(-1.14)	(-1.88)**	(-0.77)	(-1.63)*
Percent Male	-0.152	-0.291	-0.018	-0.001
	(-0.82)	(-1.58)	(-0.08)	(0.00)
Percent Urban	-0.229	-0.288	0.043	-0.084
	(-4.28)***	(-5.32)***	(0.58)	(-0.84)
1870 Dummy	-6.530	(dropped)	-2.142	(dropped)
	(-3.36)***		(-1.52)	
Intercept	25.525	33.760	3.586	6.272
	(2.33)**	(3.04)***	(0.19)	(0.33)
State-Specific Time Trends	No	Yes	No	Yes
State Fixed Effects	No	No	Yes	Yes
R^2	0.831	0.846	0.934	0.956
Number of Observations	182	182	182	182

Dependent variable is (Females Engaged in Agriculture) / (All Gainfully Employed Females). All models utilize robust standard errors. T-statistic appears in parentheses below the coefficient estimate. *** indicates significantly different from zero at the 1 percent confidence level; ** indicates significantly different from zero at the 5 percent confidence level; * indicates significantly different from zero at the 10 percent confidence level; all are two-sided tests.

Table 12
OLS Estimates of Impact of Both Acts on Female Participation in Agriculture (1)
State Data 1870-1920

Dependent variable = (Females Engaged in Agriculture / All Gainfully Employed Females)*100

	Model 1	**Model 2**	**Model 3**	**Model 4**
Both Acts indicator	-1.788	-1.889	-1.000	-1.190
	(-0.93)	(-0.99)	(-0.63)	(-0.73)
Total State Wealth	0.000	0.000	0.000	0.000
	(1.73)*	(1.26)	(-0.41)	(-0.59)
Percent Foreign Born	0.163	0.280	-0.303	-0.237
	(1.51)	(2.51)**	(-2.16)**	(-1.61)
Percent Black	0.986	0.952	1.591	1.584
	(15.24)***	(14.96)***	(5.92)***	(5.85)***
Percent Female Literate	-0.098	-0.154	-0.060	-0.139
	(-1.52)	(-2.33)**	(-0.89)	(-1.72)*
Percent Male	-0.147	-0.284	-0.019	0.005
	(-0.79)	(-1.52)	(-0.08)	(0.02)
Percent Urban	-0.235	-0.294	0.020	-0.106
	(-4.37)***	(-5.37)***	(0.28)	(-1.05)
1870 Dummy	-5.967	(dropped)	-1.602	(dropped)
	(-3.04)***		(-1.11)	
Intercept	26.233	34.907	2.517	5.447
	(2.39)**	(3.12)***	(0.13)	(0.29)
State-Specific Time Trends	No	Yes	No	Yes
State Fixed Effects	No	No	Yes	Yes
R^2	0.821	0.844	0.953	0.956
Number of Observations	182	182	182	182

Dependent variable is (Female's Engaged in Agriculture) / (All Gainfully Employed Females). All models utilize robust standard errors. T-statistic appears in parentheses below the coefficient estimate. *** indicates significantly different from zero at the 1 percent confidence level; ** indicates significantly different from zero at the 5 percent confidence level; * indicates significantly different from zero at the 10 percent confidence level; all are two-sided tests.

Table 13
OLS Estimates of Impact of Earnings Acts on Female Participation in Agriculture (2)
State Data 1870-1920

Dependent variable = (Females Engaged in Agriculture / All Engaged in Agriculture)*100

	Model 1	**Model 2**	**Model 3**	**Model 4**
Earnings Acts indicator	-0.786	-0.922	0.131	-0.076
	(-1.21)	(-1.55)	(0.30)	(-0.19)
Total State Wealth	0.0000	0.0000	0.0000	0.0000
	(1.76)**	(0.82)	(1.03)	(0.33)
Percent Foreign Born	0.065	0.139	-0.077	-0.027
	(1.96)	(4.37)***	(-2.13)**	(-0.77)
Percent Black	0.435	0.419	0.247	0.235
	(20.30)***	(21.56)***	(3.41)***	(3.52)***
Percent Female Literate	0.020	-0.015	0.048	0.006
	(0.93)	(-0.72)	(2.65)***	(0.31)
Percent Male	-0.004	-0.085	0.008	0.011
	(-0.07)	(-1.52)	(0.12)	(0.19)
Percent Urban	-0.019	-0.052	0.036	-0.019
	(-1.11)	(-3.21)***	(1.79)**	(-0.76)
1870 Dummy	-2.841	-6.274	-0.789	-3.871
	(-4.42)***	(-4.59)***	(-2.07)**	(-3.70)***
Intercept	-0.446	9.790	9.137	13.883
	(-0.12)	(2.66)***	(1.75)**	(2.88)***
State-Specific Time Trends	No	Yes	No	Yes
State Fixed Effects	No	No	Yes	Yes
R^2	0.851	0.885	0.973	0.979
Number of Observations	184	184	184	184

Dependent variable is (Females Engaged in Agriculture) / (All Individuals Engaged in Agriculture). All models utilize robust standard errors. T-statistic appears in parentheses below the coefficient estimate. *** indicates significantly different from zero at the 1 percent confidence level; ** indicates significantly different from zero at the 5 percent confidence level; * indicates significantly different from zero at the 10 percent confidence level; all are two-sided tests.

Table 14
OLS Estimates of Impact of Both Acts on Females Participation in Agriculture (2)
State Data 1870-1920
Dependent variable = (Females Engaged in Agriculture / All Engaged in Agriculture)*100

	Model 1	**Model 2**	**Model 3**	**Model 4**
Both Acts indicator	-0.457	-0.488	0.349	0.107
	(-0.72)	(-0.84)	(0.81)	(0.27)
Total State Wealth	0.000	0.000	0.000	0.000
	(1.75)*	(0.80)	(1.10)	(0.40)
Percent Foreign Born	0.066	0.139	-0.076	-0.028
	(1.96)*	(4.35)***	(-2.11)**	(-0.78)
Percent Black	0.433	0.416	0.245	0.235
	(20.27)***	(21.44)***	(3.40)***	(3.52)***
Percent Female Literate	0.015	-0.021	0.048	0.006
	(0.71)	(-1.05)	(2.64)**	(0.29)
Percent Male	-0.003	-0.083	0.007	0.012
	(-0.05)	(-1.47)	(0.11)	(0.20)
Percent Urban	-0.020	-0.052	0.033	-0.021
	(-1.16)	(-3.25)***	(1.67)*	(-0.85)
1870 Dummy	-2.726	-6.187	-0.696	-3.796
	(-4.22)***	(-4.50)	(-1.80)*	(-3.61)
Intercept	-0.305	9.942	9.170	13.813
	(-0.08)	(2.69)	(1.77)*	(2.86)***
State-Specific Time Trends	No	Yes	No	Yes
State Fixed Effects	No	No	Yes	Yes
R^2	0.850	0.883	0.973	0.979
Number of Observations	184	184	184	184

Dependent variable is (Female's Engaged in Agriculture) / (All Individuals Engaged in Agriculture). All models utilize robust standard errors. T-statistic appears in parentheses below the coefficient estimate. *** indicates significantly different from zero at the 1 percent confidence level; ** indicates significantly different from zero at the 5 percent confidence level; * indicates significantly different from zero at the 10 percent confidence level; all are two-sided tests.

Table 15
OLS Estimates of Impact of Earnings Acts on Females Participation in Manufacturing (1)
State Data 1870-1920 (Excluding Community Property States)
Dependent variable = (Females Engaged in Manufacturing / All Gainfully Employed Females)*100

	Model 1	**Model 2**	**Model 3**	**Model 4**
Earnings Acts indicator	-0.797	2.880	-3.832	1.211
	(-0.14)	(1.19)	(-0.75)	(0.50)
Total State Wealth	0.0000	0.0000	0.0000	0.0000
	(-2.64)***	(-1.95)*	(-0.01)	(-0.38)
Percent Foreign Born	0.700	-0.403	0.673	0.728
	(2.48)***	(-0.85)	(1.42)	(3.05)***
Percent Black	-1.304	-0.403	-0.571	0.957
	(-5.76)***	(-3.78)***	(-0.53)	(1.84)*
Percent Female Literate	-0.746	0.630	-0.257	0.721
	(-2.90)***	(4.89)***	(-0.91)	(4.62)***
Percent Male	-0.766	-0.082	-0.329	0.132
	(-1.57)	(-0.39)**	(0.46)	(0.39)
Percent Urban	-0.499	0.295	-1.745	-0.329
	(-0.37)	(4.89)***	(-7.43)***	(-2.02)**
1870 Dummy	23.712	67.331	2.206	51.000
	(4.37)***	(11.73)***	(0.49)	(7.32)***
Intercept	167.077	-31.416	64.778	-93.315
	(4.93)***	(1.13)	(0.88)*	(-2.60)**
State-Specific Time Trends	No	Yes	No	Yes
State Fixed Effects	No	No	Yes	Yes
R^2	0.553	0.922	0.831	0.965
Number of Observations	154	154	154	154

Dependent variable is (Females Engaged in Manufacturing) / (All Gainfully Employed Females). All models utilize robust standard errors. T-statistic appears in parentheses below the coefficient estimate. *** indicates significantly different from zero at the 1 percent confidence level; ** indicates significantly different from zero at the 5 percent confidence level; * indicates significantly different from zero at the 10 percent confidence level; all are two-sided tests.

Table 16
OLS Estimates of Impact of Earnings Acts on Female Participation in Manufacturing (2)
State Data 1870-1920 (Excluding Community Property States)
Dependent variable = (Females Engaged in Manufacturing / All Engaged in Manufacturing)*100

	Model 1	**Model 2**	**Model 3**	**Model 4**
Earnings Acts indicator	1.615	1.677	-1.301	-1.204
	(1.28)	(1.31)	(-1.13)	(-1.03)
Total State Wealth	0.0000	0.0000	0.0000	0.0000
	(-0.94)	(-0.94)	(-0.43)	(-0.47)
Percent Foreign Born	0.177	0.165	-0.293	-0.292
	(3.01)***	(2.61)**	(-2.97)***	(-2.73)***
Percent Black	-0.083	-0.044	-0.379	-0.266
	(-1.62)**	(-0.78)	(-1.55)	(-1.07)
Percent Female Literate	-0.369	-0.322	-0.460	-0.386
	(-6.29)***	(-4.72)***	(-7.19)***	(-5.21)***
Percent Male	-1.186	-1.176	-0.743	-0.781
	(-10.70)	(-10.52)***	(-4.54)***	(-4.76)***
Percent Urban	-1.186	0.009	-0.008	0.086
	(-0.13)	(0.28)	(-0.15)	(1.13)
1870 Dummy	1.756	4.808	0.056	3.481
	(1.43)	(1.58)	(0.05)	(1.07)
Intercept	113.148	105.666	109.701	98.949
	(14.66)***	(11.02)***	(6.58)***	(5.78)***
State-Specific Time Trends	No	Yes	No	Yes
State Fixed Effects	No	No	Yes	Yes
R^2	0.663	0.681	0.872	0.881
Number of Observations	156	156	156	156

Dependent variable is (Females Engaged in Manufacturing) / (All Individuals Engaged in Manufacturing). All models utilize robust standard errors. T-statistic appears in parentheses below the coefficient estimate. *** indicates significantly different from zero at the 1 percent confidence level; ** indicates significantly different from zero at the 5 percent confidence level; * indicates significantly different from zero at the 10 percent confidence level; all are two-sided tests.

Table 17
OLS Estimates of Impact of Earnings Acts on Female Participation in Agriculture (1)
State Data 1870-1920 (Excluding Community Property States)
Dependent variable = (Females Engaged in Agriculture / All Gainfully Employed Females)*100

	Model 1	**Model 2**	**Model 3**	**Model 4**
Earnings Acts indicator	-1.311	-2.055	-0.613	-0.538
	(-0.54)	(-0.89)	(-0.33)	(-1.67)*
Total State Wealth	0.0000	0.0000	0.0000	0.0000
	(1.52)	(0.76)	(-0.78)	(-0.29)
Percent Foreign Born	0.188	0.377	-0.152	-0.131
	(1.57)	(3.14)**	(-0.90)	(-0.74)
Percent Black	0.965	0.781	1.387	1.154
	(9.81)***	(7.59)***	(3.44)***	(2.76)***
Percent Female Literate	-0.165	-0.426	-0.176	-0.372
	(-1.46)	(-3.40)**	(-1.65)	(-2.77)***
Percent Male	-0.151	-0.267	-0.140	-0.061
	(-0.72)	(-1.34)	(-0.55)	(-0.24)
Percent Urban	-0.216	-0.295	0.117	-0.142
	(-3.82)***	(-5.27)***	(1.38)	(-1.06)
1870 Dummy	-5.365	-11.319	-0.840	(dropped)
	(-2.33)**	(2.12)	(-0.53)	
Intercept	30.708	71.286	23.169	50.454
	(2.15)**	(4.22)***	(0.86)	(1.76)*
State-Specific Time Trends	No	Yes	No	Yes
State Fixed Effects	No	No	Yes	Yes
R^2	0.832	0.842	0.955	0.958
Number of Observations	153	153	153	153

Dependent variable is (Females Engaged in Agriculture) / (All Gainfully Employed Females). All models utilize robust standard errors. T-statistic appears in parentheses below the coefficient estimate. *** indicates significantly different from zero at the 1 percent confidence level; ** indicates significantly different from zero at the 5 percent confidence level; * indicates significantly different from zero at the 10 percent confidence level; all are two-sided tests.

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