

Single motherhood and the abolition of Coverture in the United States

(Non-Marital Fertility and the Expansion of Women's Economic Rights)

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ABSTRACT

Under *coverture* in the United States, a married woman relinquished control of property and wages to her husband. Many U.S. states passed acts between 1850 and 1920 that expanded a married woman's right to her market earnings and to own separate property. The former were called married women's earnings acts (MWEAs) and the latter married women's property acts (MWPAs). Interest in the acts' effects is growing. Prior literature examined how the acts affected outcomes such as women's wealth-holding and educational attainment. The acts' impact on women's non-marital birth decisions remains unstudied, however. We postulate that the acts caused women to perceive greater benefits from having children within rather than outside of marriage. We thus expect passage of MWPAs and MWEAs to reduce the likelihood that single women are mothers of young children. We use probit regression to analyze individual data from the U.S. Census for the years 1860 to 1920. We find that the property acts reduced the likelihood that single women have young children. We also find that the "de-coverture" acts' effects were stronger for literate women, U.S.-born women, in states with higher female labor force participation, and in more rural states, consistent with our predictions.

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I. Introduction

Before the passage of reform legislation in the 19th century, most U.S. states followed the doctrine of coverture to govern a woman's property rights within the family. Coverture's name stems from the fact that a married woman lived almost entirely under her husband's legal "cover." 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. When a husband died, his wife could not be the guardian of their under-age children (Women, Enterprise and Society 2010). In the unusual case of divorce, the husband held child custody rights.

Economists have examined the fundamental forces driving U.S. states' abolition of coverture starting around the middle of the 1800s (e.g., Geddes and Lueck 2002, Doepke and Tertilt 2009, Fernandez 2010). Legal scholars have placed these developments in an international context by examining the significant changes in married women's rights and economic status occurring in many countries in the late 19th and early 20th centuries (e.g., Chused 1983, Hamilton 1999, Siegel 1994a, 1994b). Others have examined women's property legislation in detail, often focusing on changes in a particular state's law (e.g., Basch 1982, Lazarou 1980, Salmon 1982).

Scholars in law and economics have also studied some of the consequences of these changes in women's economic rights in the United States and elsewhere for women's property holdings (e.g. Cohen 1988, Shammass 1994, Combs 2004, 2005), labor force participation (Roberts 2009) and school attendance (Roberts 2009, Geddes et al. 2012). The impact of the acts on women's non-marital births has remained unexamined, however. We address that gap by examining the effect of coverture on women's non-marital fertility. Given that almost 7 out of every 1000 single women had a child under age 5 in the years 1880 to 1920 this is a question worthy of study.

We first present a theoretical framework based on rational choice that generates predictions regarding coverture's effect on the probability of women having children out of marriage. Our

central prediction is that the institution of coverture bolsters women's incentives to have children outside of marriage. Conversely, the abolition of this institution is expected to be associated with fewer children born out of marriage.

The extinction of coverture took place largely at the state level. Between 1850 and 1920, all but five states passed laws that were critical in strengthening married women's economic rights and in reducing the strictures of coverture: the Married Women's Property Acts (MWPAs) and the Earnings Acts (MWEAs) that expanded the rights of married women to respectively own their separate property and their market earnings. We expect that decreases in the frequency of non-marital births will be associated with the acts' passage. We also predict that the impact of "de-coverture" acts on non-marital motherhood will be stronger for literate women than for illiterates, for U.S.-born women than for foreign-born, in states with higher female labor force participation, and in more rural states.

We use difference-in-difference analysis, Census data and probit regression to examine whether the passage of each act type was accompanied by a reduction in the likelihood that women have children outside marriage. We also test our predictions regarding factors that may be associated with a stronger negative impact of MWPAs and MWEAs on the likelihood that single women became mothers.

The next section describes the legal setting created by coverture, changes embodied in the acts, and some sources of pressure to pass the acts. We offer a theoretical framework for analyzing the impact of the acts on women's non-marital fertility provide in Section III. Section IV describes our data set and the methods of estimation, while Sections V and VI reports estimation results and robustness checks, respectively. Section VII summarizes and concludes.

II. Legal Background

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.¹ 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. He could 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. The earliest statutes, known as debt statutes, simply granted a married woman a separate estate insulated from her husband’s debts. They did not grant her the right to manage and control that estate.² Debt statutes thus do not meet our definition of property acts.

We study the impact of two later acts: the married women’s property acts (MWPAs), granting married women the right to own and control real and personal property, and the married women’s earnings acts (MWEAs), granting married women the right to own their earnings from work outside the home. States passed those acts at different times, as summarized in Table 1. We define married women’s property acts as those granting the wife the power to manage and control her separate estate. Management and control rights are more consistent with the creation of a true property right from an economic perspective, which emphasizes how the law allocates control over well-defined resources (e.g. Barzel 1997). The first statute granting married women control over their separate property is the New York Married Women’s Property Act of 1848. All other states followed, most enacting MWPAs between 1850 and 1920, which is close to our study period.

¹ 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.”

² 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.

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. For example, an 1860 act added earnings to the rights New York 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). Maryland and Massachusetts were the first two states to pass MWEAs.

Legislative acts expanding married women’s economic rights were not passed in a political vacuum of course. Women’s groups urged 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 rights activists. The sponsor of the 1848 New York Act mentioned above, Judge Thomas Hertell, was persuaded by various women’s rights advocates. He wanted a wife to be “respected as the equal of a good husband.”³ Women lobbied for a year in New York to secure the passage of the 1860 earnings act discussed above. Intense pressure from women’s groups led to the passage of a married women’s property act in Ohio in 1861.⁴ In the West, married women’s property acts were often passed with the intention of attracting women to the region, and retaining them.⁵ Scholars have also noted that reform was slower in the South, where legislatures focused on granting women separate estates mainly to insulate them from profligate husbands (VanBurkleo 2001, p. 128, Chused 1983, p. 1361).

A commentator in 1871 stressed 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

³ Hertell quoted in Rabkin (1980, p. 87).

⁴ VanBurkleo (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.”

⁵ 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).

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."⁶

We next describe a theoretical framework that generates predictions about the likely impact of changes in women's economic rights on their decision to bear children out of marriage. Our approach predicts that the common law institution of coverture reduces married women's incentives to have children within marriage, for several reasons. It thus implies that the de-coverture acts will enhance women's incentives to have children within marriage.

III. Theoretical framework

We consider a particular woman's choice that may be affected by the MWPAs and MWEAs: having children within versus outside of marriage. We assume the woman is rational, consistent with rational choice models of childbearing proposed by economists, including Becker (1960, 1965) and Mincer (1963). However, they assumed that married-couple households decide to have a child based on weighing costs and benefits. In contrast, in our rational choice model it is women who make a decision as to whether to have a child alone or while married. Prior economic models in which individuals – not couples – make fertility decisions include Grossbard-Shechtman (1986) and Ekert-Jaffe and Grossbard (2008). While focusing on the individual, these models recognize that when individuals make childbearing decisions they take account of options offered by marriage markets, labor markets and other institutions. In marriage markets members of the other gender have the opportunity to express their preferences. [we need to include a discussion of birth control technology at that time; how well women were able to determine level of fertility?]

⁶ *American Law Review* 6 (1871): 73 (no author given).

The Ekert-Jaffe and Grossbard (2008) model is similar to ours: it assumes that women make a decision on whether to first form a couple and then have a child or to have a child out-of-couple. Ekert-Jaffe and Grossbard use contemporary Western data for countries with high rates of unmarried couple formation. They thus focus on women's decision to have a child alone or as part of a couple (married or not). We study the United States in the 19th and early 20th centuries, when non-marital cohabitation was very rare. We thus limit our model to a choice between marital and non-marital fertility.

The decision-making model

Define Y as the present value of net benefits a woman expects to obtain if she becomes a mother while married and A as the present value of net expected benefits from becoming an unmarried mother. The difference

$$R^* = A - Y$$

is defined as a latent variable representing the net benefit of being a non-marital mother versus that of being a married mother. It is unobserved; we instead observe R , the decision to be an unmarried versus a married mother. A woman becomes an unmarried mother ($R = 1$) if the net benefits of having a non-marital birth and keeping the child exceed those of having a marital birth. The lower Y is relative to A , the higher the likelihood of an unmarried birth.

During the period 1850 to 1920, most births were marital. Assuming rationality, this implies that in most cases Y exceeded A . This is a period during which government programs helping single mothers were not available and the prospect of poverty often forced a mother to give up her child for adoption or care at an orphanage. The unmarried single mothers included in our sample were living with their children. The assumption of rationality implies that to them A exceeded Y .

Values A and Y include material and non-material net benefits, where net benefits equal benefits minus costs. An example of a material cost is the opportunity cost of forgone income from

paid work due to either marriage or childbearing. An example of material benefits that may be included in both Y and A is access to income of other household members such as monetary transfers from the child's father, whether he is alive or dead, to the mother. If she is married then the father is likely to take better financial care of his child's mother than if she is unmarried and Y is expected to exceed A . Y is also likely to include expected benefits that the mother may receive in case of separation or divorce. Ekert-Jaffe and Grossbard (2008) showed that women are more likely to opt for out-of-couple motherhood if laws regulating division of property in case of divorce are less protective of the interests of low-income divorced mothers and therefore expected Y is lower.

Coverture entailed significant costs for women who first married and then had children. Once married, women lost control of their own earnings and of property they owned prior to marriage, or could have owned while married. Coverture thus reduced Y , the net benefits of having a child in marriage, by lowering married women's access to material resources they could have owned due to inheritance, business activity or labor force participation.

Coverture also led to a reduction in women's net benefits from having a child in marriage by reducing married women's bargaining power. Decision rights inside an organization such as a household or a firm are a direct function of the agents' opportunities outside the organization, and thus of their property rights. In the case of firms, agents who are employees tend to have less control over the fruits of their labor than independent contractors (Grossman and Hart 1986, Nobel Committee 2016). This possible link between decision rights and property rights is one of the ways by which marriages resemble firms.⁷ Under coverture men could use their property rights to control women's ability to make a variety of decisions affecting their personal wellbeing inside the household, including decisions regarding number of children, children's education and health. If the

⁷ Other similarities between firms and marriages as organizations engaged in productive work in the context of post-coverture societies are discussed in Grossbard (2015).

husband died, the wife was not even considered the legal guardian of her own fatherless children, possibly a byproduct of coverture.

Reduced levels of Y under coverture thus created incentives for women to have non-marital births. Conversely, the removal of coverture is expected to have lowered the likelihood of a non-marital birth as it raised Y relative to A . Our main prediction is:

Prediction 1. *Passage of the MWPAs and MWEAs is associated with lower rates of non-marital childbearing.*

We also expect our model to be more applicable when we anticipate women's decisions to be more firmly based on rational choice. The propensity to act rationally may be a positive function of literacy. We therefore formulate:

Prediction 2. *Passage of the MWPAs and MWEAs is more likely to be associated with lower rates of non-marital childbearing among literate women than among illiterate ones.*

Literacy also matters because it is related to job opportunities and potential earnings. Therefore literate women living in states with higher labor force participation rates will be more likely to respond to incentives discouraging marital births, leading to:

Prediction 2'. *Passage of the MWPAs and MWEAs is more likely to be associated with lower rates of non-marital childbearing among literate women in states with higher labor force participation.*

Would the effect of abolition of coverture on the non-marital fertility of U.S.-born women differ from that for foreign-born women? Awareness of coverture laws and their imminent removal may be more widespread among U.S.-born women than among foreign-born women, generating:

Prediction 3. *Passage of the MWPAs and MWEAs is more likely to be associated with lower rates of non-marital childbearing among U.S.-born women than among foreign-born women.*

We also consider whether the acts ending coverture had a differential impact in rural versus urban areas. On farms women typically worked without getting paid in the form of earnings, thus:

Prediction 4 *the MWEA is less likely to have an impact on the non-marital childbearing of women living in rural states, but the MWPA is likely to have more impact in rural areas* to the extent that among farmers property ownership is more likely to be an issue at marriage.

Eight states were community property states during the period we study. These states offered better protection for a marriage's low earners – typically women – in case of marital dissolution due to death or divorce. Therefore, from that point of view we expect the impact of a MWPA or MWEA to be less in community property states than in the rest of the United States. However, these states also adopted many of the rulings of coverture states, so that passage of MWPA and MWEA is not expected to have a differential impact in community property states.

IV. **Data and Methods**

We combine data on law passage 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). Although the Census data is available for every decade from 1850 to 1920 (except for 1890⁸), most of our analysis starts with the 1880 Census which is the first to explicitly ask respondents for their marital status. The alternative answers to the marital status question are married, widowed or divorced.⁹ Most of our estimates use pooled data for the Census years 1880, 1900, 1910 and 1920, during which 14 states passed MWEAs and 10 states passed MWPA's and explicit data on marital status is available. We also analyze the period 1860 to 1920, although we don't have explicit information on marital status for 1860 and 1870. We instead infer single status for those years, as explained below.

⁸ The 1890 Census records were lost to fire.

⁹ We assume that all births to women married at the time of the census occurred after they married. We have no way of knowing whether that is actually the case or not.

Because of changes in territory boundary definitions over this time period, our sample includes only those states and territories in each census year which achieved (roughly) their permanent boundaries by that year. Data on state laws granting married women expanded economic rights come from primary and secondary sources. Following Geddes et al. (2012) we use the earliest year a state passed an act granting married women management and control over their separate market earnings or estates. This approach reflects a characterization of property rights that emphasizes women's control.

We conducted extensive legal research to obtain the most accurate enactment dates possible utilizing 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: (i) Bishop (1873-1875), (ii) Kelly (1882), and (iii) Wells (1879). Those treatises were also helpful in obtaining additional documentation. Our final step was to further examine state session laws. We thus went back in time to determine if earlier acts than those obtained through the above 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).

Our goal is to analyze the likelihood that an unmarried woman has a young child, which we define as a child under age 5.¹⁰ We focus on white women since they are the majority and some data were collected around the time slavery ended. The property acts are not expected to have had the same impact on slaves as on free women. We do not have a sufficient number of observations to analyze black women separately for most states. We only considered women 20 to 40 years old; this captures most of the years women are likely to have a child aged five or younger during the sample period. Table 2 presents summary statistics. During the period 1880-1920 (Panel I), only 6.9 women on average lived with their child aged 5 or younger for every 1,000 single women 20 to 40 years old.

We estimate the probability that a single white woman has a child under 5 as a function of the passage of each act in her state of residence. We use a one-year lag, include state and year fixed effects, and control for the state-level and individual-variables described below. Using a linear specification the regressions, we thus estimate:

$$Y_{ist} = a + bX_{ist} + cZ_{st} + \text{individual error term} + \text{state error term} + \text{year error term}, \quad (1)$$

where X are individual characteristics and Z are state-level explanatory variables. Individual characteristics include age, age squared (to capture the non-linear relationship between a woman's age and the likelihood that she would have a child), and literacy. As can be seen from Table 2 a vast majority of our sample (95 percent) is literate.

A single woman's decision to have a child is jointly determined with her labor force participation and possible migration. We do not use these variables at the individual level. We instead use state-level information on women's labor force participation and urbanization, since those are exogenous from an individual woman's perspective. Since we include state-and-year fixed effects, we created dummies for state's above-average urbanization and above-average participation

¹⁰ We were unable to obtain data on mothers of children younger than 5 due to constraints on how individual Census data on children's ages are coded.

of women in the labor force. We calculate an "*urbanized*" dummy from the individual Census data. It equals 1 if a state has an above-average percentage of urban population in a particular census year. In turn, percent urban for each state and year was obtained from the U.S. decennial census summary reports. We also calculate a "*high LFP*" dummy that equals 1 if a state has an above-average rate of labor force participation for white women aged 20 to 40. Moreover, we use the state-level ratio of males to females and per capita wealth (defined as dollars of real and personal property per capita). We use probit regressions given the low likelihood that single women have a young child.

To test Prediction 2, we estimate Equation 1 using our whole sample as well as for the separate sample of literate and illiterate women. To test for Prediction 3, we ran separate regressions for U.S.-born and foreign-born women. We also estimated models that include interaction terms between (1) law and 'high LFP' to test whether women reacted differently to the abolition of coverture where and when they had more opportunities to work in the labor force; and (2) law and 'urbanized' to test whether women's reaction to the abolition of coverture depended on how urbanized their state was at the time of the survey.

Estimates for 1860 to 1920. As reported in Table 1, a few states passed MWPAs and MWEAs between 1859 and 1870. However, the Censuses of 1860 and 1870 do not include information on marital status.¹¹ We inferred single status based on women's answers to questions about their relationship to the household head for those earlier years. A question about that relationship was asked during all census years. We used individual data on both marital status and type of relationship for the years 1880 to 1920 to infer marital status (see the Appendix for details). We estimate our basic Regression 1 using inferred marital status instead of actual marital status for the period 1880 to

¹¹ They do include a question about labor force participation, however, which is not the case for the Census of 1850. Therefore we don't use the 1850 Census at all, even though some states also passed de-coverture acts by 1850.

1920. This allows us to examine whether we obtain similar results with our inferred variable to those obtained using actual marital status, and for the longer period 1860 to 1920.

V. Results

We use probit regression to estimate the likelihood that single women have a child under age 5 for the years 1880-1920, during which time the Census explicitly asked respondents for their marital status. Table 3 reports our basic estimates. Tables 4 and 5 examine whether the likelihood of being a single mother varies with the state's urbanization or labor force participation. Tables 6 and 7 consider whether the likelihood of being a single mother is different for U.S.-born versus foreign-born single women.

The effects of MWPA's and MWEA's. Table 3 presents results of probit regressions where the dependent variable is the probit of (explicitly) single women having a child under 5. We focus on the "law" coefficient since that indicates whether a property act (MWPA) or an earnings act (MWEA) was in place at the time of the survey. Column 1 indicates that the property act has a negative association with white women being single moms. This confirms our principal prediction: the property act made it more appealing for women to be married, so they were less likely to have a child outside marriage after the property act's passage. We don't find a similar effect of the earnings act (column 2).

An interesting question is why the property acts had more effects on non-marital childbearing than did earnings acts. It could be that more married women were likely to own or to possibly inherit property in the future than they were to earn an income in the labor force given the low rates of labor force participation of married women during the period we studied.

De-coverture and literacy. We tested whether the law's effect was a function of a woman's level of literacy. Since the prediction is based on the assumption that women make a rational choice, we also

tested Prediction 2, whether the effect of the property and earnings acts were larger for literate women than for illiterate ones. Columns 3 to 6 present the basic regressions 1 and 2, separately for literate and illiterate women. It can be seen that the coefficient of property law is negative for both types of women. However, it is only statistically significant for literate women. This confirms prediction 2 for property acts. The earnings acts did not have a significant effect on single women's likelihood of being the mother of a young child.

Other results reported in Table 3. As expected we find that as single women age they are more likely to be mothers, but the effect of age is not linear: the coefficient of 'age, squared' is negative, indicating that the likelihood of being a single mother peaks at a certain age. Literate women are less likely to have a child while single, which probably reflects their better marriage prospects.

De-coverture and women's labor force participation. Table 4 reports regressions testing whether the effect of the MWPA and MWEA acts depended on whether a woman resides in a state where the labor force participation of women is above average. Prediction 2' stated that the de-coverture acts would be more likely to be associated with lower rates of non-marital childbearing among literate women in states with higher labor force participation. It can be seen from columns 2, 4, and 6 in Table 4 that the coefficient of interaction of law and above average female labor force participation is negative. This means that in states with high female labor force participation the MWEAs (earnings acts) had a negative impact on the likelihood that single women had children. However, this effect was not restricted to literate women; it was also found for illiterate women. The coefficient of state's high female participation rate is positive in the case of the MWEA, meaning that under coverture in states with better employment opportunities for women, women were encouraged to remain single and to possibly have children outside marriage. When such states passed laws allowing married women to keep their earnings (the MWEAs), women responded by reducing their likelihood of having a child while single.

De-coverture and urbanization. Table 5 reports tests of whether the laws had a different impact in states that with an above average percent of the population living in urban areas. We interacted the law dummies with “urbanized” defined as a dummy equal to 1 if the state had an above average urban population. These results are reported in Table 5. It can be seen that for the sample as a whole and for the subsample of literate U.S.-born white women aged 20 to 40 the Property law had a negative impact on the likelihood that a single woman has a child, but this negative effect is restricted to rural states. This is consistent with Prediction 4: among farmers property ownership is more likely to be an issue at marriage. It is also consistent with the proposition that in rural states the MWEA did not have an impact on the likelihood that single women have children. However, we also find that in urbanized states passage of the MWEAs was associated with increases in the likelihood that single women had children, which is a result that we find hard to explain.

De-coverture and U.S.-born status. Tables 6 and 7 reports estimates of the basic regressions for U.S.-born and foreign-born women. It was predicted that U.S.-born women would be more knowledgeable about the implications of the property and earnings acts and therefore would respond more negatively to their passage in terms of their likelihood of being single mothers. It can be seen that the regressions in columns 1 to 4 of Table 6, estimated for U.S.-born women, are very similar to the results obtained for the entire sample and reported in Table 3 (Note that 84 percent of our sample are U.S.-born). The only difference is that U.S.-born illiterate women seem to have reacted positively to the MWEAs, which is the opposite reaction to that of literate women whose behaviour is consistent with our economic model. In contrast, in Table 3 that coefficient was not statistically significant.

Table 7 reports results for foreign-born women. Whether literate or not, the foreign-born women did not respond to the de-coverture acts in a way consistent with rational choice and our economic model. These two tables are thus supporting the prediction that stated that relative to foreign-born

women U.S.-born women will be more in-tune with legal change and will respond more in line with an economic model.

Results for longer period 1860 to 1920. Table 8 reports results using the inferred single estimations. Columns 1 and 2 reproduce the results for our basic model using explicitly single status, copied from Table 3. In columns 3 and 4 we re-estimate the basic regressions for the same years using the inferred single status method described in Appendix A.

VI. Robustness checks

We obtained the above estimates assuming a one-year lag between passage of a law and year of survey. We also estimated our models without a lag and with a two-year lag and found similar effects.

Eight states in our study had laws based on the French or Spanish system and followed the community property doctrine. In theory, that approach gives married women greater control over household property in case of marriage dissolution (see, e.g., Fernandez, 2009). Community property law, however, did not actually give women equal rights since husbands usually held exclusive control rights over joint property and wealth. We nevertheless examined whether women in those states reacted differently to the passage of de-coverture acts. When community property states are excluded the results are not very different from those presented above. These robustness checks are available upon request.

VII. Summary and conclusions

Under *coverture* a married woman in the United States relinquished property and wages to her husband. Many U.S. states passed acts between 1850 and 1920 that weakened or abolished coverture: the married women's earnings acts (MWEAs) allowed married women to keep their market earnings,

while the married women's property acts (MWPAs) allowed them to keep their property. We present an economic model that leads us to predict that coverture created incentives for women to have children outside marriage, whereas the process of "de-coverture" via either MWPAs or MWEAs made it less beneficial for single women to have children. We analyzed data from the U.S. Census for the years 1880 to 1920 to test whether a state's passage of one of these acts is associated with a lower likelihood that single women were mothers of young children. Estimates based on Probit functions and including a variety of controls indicate that, as predicted, the property acts reduced the likelihood that single women aged 20 to 40 had children under age 5. If women stood to gain more (or to lose less) from marriage they were more likely to wait until marriage to have a child.

Also consistent with the theoretical framework are the findings that, relative to illiterate women, women who are literate were more likely to respond to de-coverture acts via reduced likelihood of having a child as a single woman. Likewise, U.S.-born women were more likely to respond to de-coverture than women not born in the U.S. and thus less aware of local legal settings. Furthermore, we found that single women's likelihood of being the mother of a young child responded more to de-coverture in states with more opportunities for women to work in the labor force as reflected in higher labor force participation rates for women ages 20 to 40. Another finding that is consistent with our economic model is that the property acts had more impact on the likelihood that rural single women had a child under age 5. Property ownership among farmers was more likely to influence the marriage decision. However, we also find that in more urbanized states passage of the MWEAs was associated with increases in the likelihood that single women had children, a result we find hard to explain.

We hope that our research will inspire further investigation into the determinants of non-marital fertility in the 19th and early 20th century in the United States. Furthermore an implication of our research is that it is useful to analyze fertility decisions as individual decisions rather than household

decisions, since the interests of men and women are often in conflict. Laws influencing the bargaining power of men and women in marriage, such as coverture and its demise via the MWPA's and MWEA's, affect individual bargaining power and therefore they may not only influence non-marital fertility but also have an effect on other decisions depending on relative bargaining power of individual men and women in their respective marriages.

Appendix A

This appendix discusses how we inferred ‘unmarried’ from the ipums data for the Census years 1880, 1900, 1910 and 1920, for which we had an explicit marital status variable. As shown in the table below we cross tabulated respondents’ type of relationship to the household head (vertical) with explicit marital status (horizontal). If 70 percent or more of respondents in a particular relationship to the household head explicitly reported being never married or single, we assumed that these respondents are ‘inferred single’. These categories are highlighted in the table below. More specifically, *Inferred Single* was set equal to one if respondents had the following relationships to the household head: “Child,” “Sibling,” “Sibling-in-Law,” “Grandchild,” “Other relatives,” “Partner, friend, visitor,” or “Other non-relatives,” and was set equal to zero otherwise. A very small number of respondents reported that their relationship to the household head was “parent” or “parent-in-law,” and those were dropped from the sample. We also drop respondents who reported that their household head was an institutional inmate. We then inferred that all women aged 20 to 40 reporting these types of relationship in the earlier years (1850 to 1870) were never married or single.

Appendix Table 1: Marital status of respondents according to their relationship to the household head, 1880 to 1920, women ages 20 to 40

Relationship to household head	Marital status					
	Total	Married, spouse present	Married, spouse absent	Divorced	Widowed	Never married/Single
Head/Householder	51,336	1.49%	16.04%	4.57%	56.94%	20.96%
Spouse	983,164	99.98%	0.02%	0%	0%	0%
Child	316,523	5.54%	4.02%	0.90%	3.37%	86.17%
Child-in-law	19,685	88.96%	4.82%	0.13%	3.97%	2.12%
Sibling	30,821	2.96%	3.77%	0.98%	6.80%	85.49%
Sibling-in-law	17,941	12.26%	6.89%	1.05%	8.04%	71.76%
Grandchild	3,268	9.70%	5.11%	0.80%	2.88%	81.52%
Other relatives	14,924	5.51%	3.98%	1.04%	5.19%	84.29%
Partner, friend, Visitor	1,000	11.80%	9.80%	2.10%	8.40%	67.90%
Other non-relatives	136,986	10.11%	6.05%	1.27%	6.51%	76.05%
Total	1,575,648	65.82%	2.13%	0.48%	3.43%	28.13%

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Table 1: Dates of Passage of MWPAs and MWEAs

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

Notes: a/ community property state during our study timeframe.

Dark Grey: acts that passed prior to 1850; Light Grey: acts that passed between 1850 & 1879;

White: acts that passed in the period 1880-1920.

Table 2: Summary Statistics

Panel I: 1880-1920		
Variable	Mean	Std. Dev.
<i>Individual-level Variables</i>		
Single Mom (explicit)	0.0069	0.0826
Age	25.5793	5.3903
Literacy	0.9547	0.2080
<i>State-Level Variables</i>		
% Urban	42.5702	22.8895
Ratio of Males to Females	1.0331	0.0869
Per Capita Wealth (\$1000)	15.2170	6.5539
Female LFP, 20-40	0.1898	0.0800
N	440,072	
<i>Individual-level Variables</i>		
Single Mom (inferred)	0.04961	0.2171
N	518,493	
Panel II: 1860-1920		
Variable	Mean	Std. Dev.
<i>Individual-level Variables</i>		
Single Mom (inferred)	0.0510	0.2200
Age	26.0045	5.5388
Literacy	0.9514	0.2150
<i>State-Level Variables</i>		
% Urban	41.7228	22.8078
Ratio of Males to Females	1.0352	.09754
Per Capita Wealth (\$1000)	14.9243	6.7044
Female LFP, 20-40	0.1870	0.0798
N	557,426	

Table 3: Probit Estimates of the Effects of Property & Earning Acts on the Probability of Having a Child Under Five for White Single Women Ages 20-40, United States, 1880-1920

Variable	All		Literate		Illiterate	
	MWPAs	MWEAs	MWPAs	MWEAs	MWPAs	MWEAs
	1	2	3	4	5	6
Law Indicator	-0.0029** (0.0012)	0.0007 (0.0007)	-0.0028** (0.0013)	0.0005 (0.0007)	-0.0216 (0.0170)	0.0065 (0.0042)
<i>State-Level Controls</i>						
% Urban	-0.0000 (0.0000)	-0.0000 (0.0000)	-0.0000 (0.0000)	0.0000 (0.0000)	-0.0004 (0.0008)	-0.0003 (0.0008)
Ratio of Males to Females	0.0035 (0.0027)	0.0035 (0.0027)	0.0028 (0.0023)	0.0028 (0.0023)	0.0326 (0.0371)	0.0295 (0.0370)
Per Capita Wealth (\$1000)	-0.0001* (0.0001)	-0.0001 (0.0001)	-0.0001 (0.0001)	-0.0001 (0.0001)	-0.0011 (0.0011)	-0.0012 (0.0011)
LFP Rate	-0.0045 (0.0097)	-0.0057 (0.0093)	-0.0066 (0.0100)	-0.0079 (0.0098)	0.1196 (0.1204)	0.1083 (0.1077)
<i>Individual-Level Controls</i>						
Age	0.0017*** (0.0002)	0.0017*** (0.0002)	0.0015*** (0.0002)	0.0015*** (0.0002)	0.0137*** (0.0025)	0.0137*** (0.0025)
Age Squared	-0.0000*** (0.0000)	-0.0000*** (0.0000)	-0.0000*** (0.0000)	-0.0000*** (0.0000)	-0.0002*** (0.0000)	-0.0002*** (0.0000)
Literate	-0.0155*** (0.0017)	-0.0156*** (0.0017)				
N	440,072	440,072	420,132	420,132	19,272	19,272

* Statistically significant at 10% level; ** at 5% level; *** at 1% level.

Notes: Marginal effects based on unweighted IPUMS data are reported. All regressions also include state and year fixed effects. Standard errors clustered by state are in parentheses.

Table 4: Probit Estimates of the Effects of Property & Earning Acts on the Probability of Having a Child Under Five for White Single Women Ages 20-40, United States, 1880-1920; with Interactions of Law and Above Average Female Labor Force Participation (High FLFP)

Variable	All		Literate		Illiterate	
	MWPAs	MWEAs	MWPAs	MWEAs	MWPAs	MWEAs
	1	2	3	4	5	6
Law Indicator	-0.0028** (0.0012)	0.0009 (0.0007)	-0.0028** (0.0013)	0.0006 (0.0007)	-0.0202 (0.0173)	0.0078* (0.0041)
Law * High FLFP	-0.0011 (0.0007)	-0.0042*** (0.0009)	-0.0006 (0.0008)	-0.0033*** (0.0009)	-0.1968*** (0.0020)	-0.2228*** (0.0021)
<i>State-Level Controls</i>						
% Urban	-0.0000 (0.0000)	-0.0000 (0.0000)	-0.0000 (0.0000)	0.0000 (0.0000)	-0.0003 (0.0008)	-0.0001 (0.0008)
Ratio of Males to Females	0.0036 (0.0027)	0.0036 (0.0027)	0.0029 (0.0023)	0.0030 (0.0023)	0.0288 (0.0338)	0.0249 (0.0336)
Per Capita Wealth (\$1000)	-0.0001 (0.0001)	-0.0001 (0.0001)	-0.0001 (0.0001)	-0.0001 (0.0001)	-0.0013 (0.0011)	-0.0015 (0.0011)
High FLFP	0.0005 (0.0008)	0.0035*** (0.0008)	-0.0001 (0.0009)	0.0025*** (0.0009)	0.7314*** (0.0278)	0.7950*** (0.0206)
N	440,072	440,072	420,132	420,132	19,272	19,272

* See notes to Table 3. Regressions also include individual level controls as in Table 3 and state and year fixed effects.

Table 5: Probit Estimates of the Effects of Property & Earning Acts on the Probability of Having a Child Under Five for White Single Women Ages 20-40, United States, 1880-1920; with Interactions of Law and “Urbanized”

Variable	All		Literate		Illiterate	
	MWPAs	MWEAs	MWPAs	MWEAs	MWPAs	MWEAs
	1	2	3	4	5	6
Law Indicator	-0.0029** (0.0012)	0.0007 (0.0007)	-0.0028** (0.0013)	0.0005 (0.0007)	-0.0219 (0.0169)	0.0064 (0.0041)
Law * Urbanized	0.1753*** (0.0014)	0.1516*** (0.0011)	0.1602*** (0.0013)	0.1386*** (0.0011)		
<i>State-Level Controls</i>						
Urbanized	-0.2724*** (0.0165)	-0.2358*** (0.0142)	-0.2776*** (0.0169)	-0.2400*** (0.0148)	-0.0432*** (0.0148)	-0.0428*** (0.0146)
Ratio of Males to Females	0.0032 (0.0026)	0.0033 (0.0026)	0.0026 (0.0022)	0.0027 (0.0023)	0.0370 (0.0341)	0.0348 (0.0349)
Per Capita Wealth (\$1000)	-0.0001** (0.0001)	-0.0001* (0.0001)	-0.0001* (0.0001)	-0.0001 (0.0001)	-0.0011 (0.0009)	-0.0010 (0.0010)
LFP Rate	-0.0065 (0.0097)	-0.0070 (0.0093)	-0.0084 (0.0096)	-0.0089 (0.0096)	0.1463 (0.1153)	0.1404 (0.1051)
N	440,103	440,103	420,162	420,162	19,272	19,272

* See notes to Table 3. Regressions also include individual level controls as in Table 3 and state and year fixed effects.

Table 6: Probit Estimates of the Effects of Property & Earning Acts on the Probability of Having a Child Under Five for USUS-Born White Single Women Ages 20-40, United States, 1880-1920

Variable	All		Literate		Illiterate	
	MWPAs	MWEAs	MWPAs	MWEAs	MWPAs	MWEAs
	1	2	3	4	5	6
Law Indicator	-0.0033** (0.0013)	0.0008 (0.0008)	-0.0030** (0.0014)	0.0004 (0.0008)	-0.0383 (0.0280)	0.0134** (0.0063)
<i>State-Level Controls</i>						
% Urban	-0.0000 (0.0000)	-0.0000 (0.0000)	0.0000 (0.0000)	0.0000 (0.0000)	-0.0008 (0.0012)	-0.0003 (0.0012)
Ratio of Males to Females	0.0008 (0.0019)	0.0007 (0.0017)	0.0011 (0.0017)	0.0011 (0.0016)	-0.0719* (0.0426)	-0.0787** (0.0379)
Per Capita Wealth (\$1000)	-0.0002*** (0.0001)	-0.0002*** (0.0001)	-0.0002** (0.0001)	-0.0001** (0.0001)	-0.0021 (0.0021)	-0.0026 (0.0021)
LFP Rate	-0.0026 (0.0108)	-0.0039 (0.0102)	-0.0067 (0.0107)	-0.0081 (0.0104)	0.2528 (0.1766)	0.2345 (0.1451)
N	371,411	371,411	356,487	356,487	14,439	14,439

* See notes to Table 3. Regressions also include individual level controls as in Table 3 and state and year fixed effects.

Table 7: Probit Estimates of the Effects of Property & Earning Acts on the Probability of Having a Child Under Five for Foreign-Born White Single Women Ages 20-40, United States, 1880-1920

Variable	All		Literate		Illiterate	
	MWPAs	MWEAs	MWPAs	MWEAs	MWPAs	MWEAs
	1	2	3	4	5	6
Law Indicator	-0.0012 (0.0019)	0.0005 (0.0006)	-0.0016 (0.0035)	0.0009* (0.0005)	0.0047*** (0.0018)	0.0051** (0.0020)
<i>State-Level Controls</i>						
% Urban	0.0000 (0.0000)	0.0000 (0.0000)	0.0000 (0.0001)	0.0000 (0.0001)	-0.0002 (0.0005)	-0.0003 (0.0005)
Ratio of Males to Females	0.0052** (0.0026)	0.0054* (0.0028)	0.0031 (0.0026)	0.0034 (0.0028)	0.1748** (0.0851)	0.1711** (0.0822)
Per Capita Wealth (\$1000)	0.0001** (0.0001)	0.0002*** (0.0001)	0.0001* (0.0001)	0.0001** (0.0001)	0.0006 (0.0006)	0.0007 (0.0006)
LFP Rate	-0.0459*** (0.0147)	-0.0469*** (0.0147)	-0.0300* (0.0181)	-0.0292* (0.0177)	-0.1074 (0.1561)	-0.1294 (0.1679)
N	65,245	65,245	60,094	60,094	4,032	4,032

* See notes to Table 3. Regressions also include individual level controls as in Table 3 and state and year fixed effects.

Table 8: Probit Estimates of the Effects of Property & Earning Acts on the Probability of Having a Child Under Five for White Women Ages 20-40, United States, 1860-1920; Explicitly Single and Inferred Single

Variable	Explicit Single 1880-1920		Inferred Single 1880-1920		Inferred Single 1860-1920	
	MWPAs	MWEAs	MWPAs	MWEAs	MWPAs	MWEAs
	1	2	3	4	5	6
Law Indicator	-0.0029** (0.0012)	0.0007 (0.0007)	-0.0096** (0.0045)	0.0001 (0.0037)	-0.0095*** (0.0031)	0.0002 (0.0028)
<i>State-Level Controls</i>						
% Urban	-0.0000 (0.0000)	-0.0000 (0.0000)	0.0001 (0.0001)	0.0001 (0.0002)	-0.0001 (0.0002)	-0.0001 (0.0002)
Ratio of Males to Females	0.0035 (0.0027)	0.0035 (0.0027)	0.0127 (0.0111)	0.0139 (0.0115)	0.0252* (0.0140)	0.0272* (0.0143)
Per Capita Wealth (\$1000)	-0.0001* (0.0001)	-0.0001 (0.0001)	-0.0014*** (0.0002)	-0.0014*** (0.0002)	-0.0010*** (0.0003)	-0.0010*** (0.0003)
LFP Rate	-0.0045 (0.0097)	-0.0057 (0.0093)	-0.1165** (0.0473)	-0.1208** (0.0493)	-0.0962** (0.0429)	-0.0989** (0.0485)
<i>Individual-Level Controls</i>						
Age	0.0017*** (0.0002)	0.0017*** (0.0002)	0.0325*** (0.0006)	0.0325*** (0.0006)	0.0333*** (0.0005)	0.0333*** (0.0005)
Age Squared	-0.0000*** (0.0000)	-0.0000*** (0.0000)	-0.0006*** (0.0000)	-0.0006*** (0.0000)	-0.0006*** (0.0000)	-0.0006*** (0.0000)
Literacy	-0.0155*** (0.0017)	-0.0156*** (0.0017)	-0.0271*** (0.0023)	-0.0273*** (0.0023)	-0.0244*** (0.0021)	-0.0245*** (0.0021)
N	440,072	440,072	518,493	518,493	547,764	547,764

* See notes to Table 3. Regressions also include individual level controls as in Table 3 and state and year fixed effects.