THE GAINS FROM SELF-OWNERSHIP AND THE EXPANSION OF WOMEN'S RIGHTS

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ABSTRACT Property rights analysis is used to explain the expansion of women's rights and the demise of the common law rule of coverture in the United States. As markets expand, increasing gains from human capital investment increase the value of self-ownership and generate incentives to change women's property rights. The exceptional cases of women's rights under coverture and the adoption of married women's property acts are examined. Data from 1850-1920, shows that states with a greater fraction of city dwellers, greater per capita wealth, and a greater fraction of schooled females were more likely to enact laws expanding women's rights. (*JEL* D23, J16, K00)

Throughout history wives have been the property of their husbands. Only in the past two centuries has this institution broken down in the world's most developed regions.   In America and England, the doctrine of coverture restricted women's choices in virtually every aspect of their lives until the beginning of the 20th century. A married woman -- a *feme covert* -- could not make contracts, buy and sell property, sue or be sued, or draft wills (Joel P. Bishop 1875, John C. Wells 1878, and John F. Kelly 1882).[1] Her husband owned any wages she earned and he controlled any property she brought to the marriage. A husband also could control his wife's economic activities outside the home , such as limiting a particular shopkeeper from selling to his wife (Marylynn Salmon 1986). Even in the rare case of divorce the children of the marriage fell under the father's custody.

Today the doctrine of coverture is extinct in most developed countries. Women now control rights to themselves and the products of their labor. No formal restrictions remain on a woman's ability to own or convey title to land or other forms of real property. Women are able to freely contract and enforce their contractual rights. No formal restrictions remain on a woman's capacity to sue or be sued in tort. Rape is

no longer a crime against a husband's property interest in his wife but a crime in which the woman is the sole victim. No formal restrictions limit a woman's ability to alienate her labor and own the wages she earns. Whether married or single, women today have practically all the rights of their male counterparts.

We use a property rights analysis to explain the demise of coverture in the United States. We characterize the modern property rights structure to human beings as a system in which all adults are self-owners. Men and women have essentially equal rights, and are able to contract fully inside and outside of marriage, so marriage is a share contract (Douglas W. Allen 1992). Coverture, in contrast to self-ownership, is characterized as a principal-agent system in which the man (husband) legally owned his wife and her flow of value. Under coverture a wife was an agent, severely constrained by the system of property rights, which denied her the right to freely choose human capital investments and consumption as well as to capture the full returns from her actions. The husband's economic ownership was imperfect, however, allowing the woman to deviate from the man's directives.[2]

Human ownership regimes are important because they affect incentives to acquire and develop human capital (T.W. Schultz 1968, Stanley Engerman 1973). In particular, we argue that economic growth with attendant increases in wealth and specialized markets leads to greater gains from human capital investment, thus making coverture a relatively costly institution. We examine two key state statutory changes: laws granting married women management and control of separate estates, and laws granting them control of their earnings. Table 1 suggests how adoption of these laws was related to economic change from 1850 to 1920.

We begin by developing a property rights framework that considers the demise of coverture as a change in property rights regime and generate predictions about the causes of this change. In the following two sections we test the implications of this approach. First, we examine the historical record and show how several methods of acquiring property rights under coverture are consistent with those predictions.

Second, we use data from 1850-1920 to estimate the economic determinants of the passage of the "married women's property acts," which broke down the common law rule of coverture beginning in the middle of the 19th century. We end with a brief conclusion.

I. Property Rights, Women's Rights and the Coase Theorem

According to the Coase Theorem, if property rights in the family were perfect (i.e., costlessly enforced) there would be no difference between coverture and self-ownership. Under both institutions the total value of the family would be maximized. Indeed, this is the implicit assumption underlying the common preference model of the family, which assumes that family members maximize a single utility function enforced by altruism (Gary S. Becker 1991). Many economists have noted the limits of this approach and have recognized that imperfect property rights affect family behavior (e.g., Allen 1992, Shelly Lundberg and Robert A. Pollak 1996, Gillian Hamilton 1999).

We assume that property rights are imperfect and that transaction costs in the family are positive. Furthermore, these costs vary across regimes, thus generating comparative statics predictions for empirical analysis. Transaction costs arise because marriage-specific assets generate the potential for holdups, because uncertainty generates moral hazard, and because measurement costs associated with complex assets make policing imperfect.   Particularly important is human capital investment. Because it is costly to monitor the highly skilled labor associated with this investment, it is difficult to generate the incentives for efficient investment and use of human capital without granting individuals rights of self-ownership. Although there have been few property rights studies of human resources, the available evidence supports this approach (e.g., Yoram Barzel 1977, B. Zorina Kahn 1996, Hamilton 1999). Barzel, for instance, finds that slave owners differentially granted rights to their slaves when enforcement costs and incentives warranted it.

A. Rights and Incentives: Coverture versus Self-Ownership

Coverture and self–ownership can be differentiated by the rights assigned to the husband and wife and the incentives these rights assignments create to allocate time to household versus market activities. We assume output is uncertain so that the potential for moral hazard exists when agents are not full residual claimants. We also assume that it is costly to monitor effort and maintenance of the household capital stock (e.g., home, business). Accordingly, we ignore altruism and other types of inter-dependent utility. Finally, we assume that both the husband and wife are risk neutral and that the objective is to maximize the total expected value of the marriage (i.e., the sum of the value of market goods and household production). The property rights held by the husband and the wife – dependent on the marital rights regime – will determine the behavior of each person and the total value of the marriage.[3]

Under coverture the man chooses his own allocation of time and guides the woman's time allocation. He is constrained in this endeavor by enforcement costs and by legal rules that require him to support his wife.[4] The law of coverture implied that the husband owned the wife's earnings. Given these constraints our coverture model of the family takes on a specific form. First, the husband is treated as a principal since he owned all of the household output, chose his own consumption, production, and investment, and guided the labor allocation of his wife. Second, because labor markets (including human capital investment) and goods markets were closed to married women, we assume that the wife has no property rights to market goods and is the husband's agent. Third, since the husband was required to support his wife, we assume the wife is "paid" in-kind (e.g., food, clothes, shelter, and protection) during the husband's life but after his death she gets cash via dower. Finally, although the woman is restricted from working in the market she can shirk into leisure because the husband cannot perfectly monitor her household effort.[5] Such shirking can reduce the value of household output directly and indirectly by damaging the household capital. The solution to this principal-agent model yields an optimal allocation of time for the husband and wife and implies a total value for the marriage.

Under self-ownership women, like men, are free to allocate their time across market and household activities, as well as to choose their own level of human capital investment. This implies a different model of the family. First, both the husband and wife own their final market goods. Second, within a marriage they each own one-half of the household product and one-half of the shared property income (Becker 1991, Allen 1992). Third, women no longer have support and dower rights. Finally, because the wife has access to labor markets and human capital investment, she no longer shirks into household leisure. Instead she can shirk by working more in the market and by purchasing market goods (and working less in the home). The solution to this model implies that each partner in the marriage chooses his or her optimal allocation of time between market and household work given the terms of the share contract and the behavior of the other partner. Since each partner owns just one-half of the household output, moral hazard ensues for both husband and wife.

B. The Choice of a Marital Rights System

If the Coase Theorem held, both coverture and self-ownership would generate identical first-best outcomes. Under coverture, the husband would be able to perfectly enforce his rights, thus eliminating shirking by the *feme covert*. He also would be able to direct his wife in the labor market and enforce his claim on all her labor earnings. Similarly, in a share contract under self-ownership, neither the husband nor the wife would be able to shirk their household duties. They would face their full marginal product of household effort and thus optimally allocate time between market and household work.

Like all property rights regimes, those within the household cannot be enforced without cost, so the preconditions for the Coase Theorem do not hold, and alterations in rights will affect household and market time allocation as well as the total value generated from a marriage. Considering how changes in economic variables affect incentives, allows us to develop predictions about the value-maximizing choice of rights. First, consider increases in household wealth. Under self-ownership, the wife has a larger stake

compared to coverture, so the relative value of the marriage under self-ownership will be higher for wealthier households.

Second, increases in the returns to market work will increase the relative value of self-ownership. Coverture provides no incentive for women to enter the market (indeed, it makes it nearly impossible) or to accumulate the human capital necessary to compete in the market. Simultaneously, as the market expands and household production declines, the cost of self-ownership also delines. In a marriage under self-ownership each person has full ownership of their personal consumption but only one-half ownership of the marital output, so the incentives for household production are weaker. The benefits of self-ownership rise as opportunities emerge in external labor markets which require more complex, high human-capital tasks (Claudia D. Goldin 1986). This is likely to be even more important for market work that requires extensive up-front human capital investment that itself is hard to monitor (e.g., business or medical school). Indeed, Schultz (1968), Engerman (1973), and Barzel (1977) have noted the link between complex, high-monitoring cost activities and rights acquisition. These predictions can be summarized:

Prediction 1. As wealth increases, women's rights will expand because the incentives under self-ownership to efficiently use wealth are greater than under coverture since *feme coverts* have no residual claim.

Prediction 2. As market wages increase, women's rights will expand because the gain from shifting women's time from household work to human capital accumulation and market work is increasing.

Prediction 3. As the marginal product of human capital investment (for market work) increases, women's rights will expand because the gains can be more fully captured under self-ownership than under coverture.

Prediction 4. As market work becomes harder to monitor, because of the rise of highly skilled and non-routine jobs, women's rights will expand.

We test these predictions at the family level and the aggregate level. They have precise application at the family level because men, as well as women, gain from an expansion in women's rights that increases the total value of the marriage. For those aggregate changes in women's rights that require political action (e.g., changing statutes) changing rights will also depend on political or legal rules and on the costs of organizing groups to facilitate change (e.g., Gary D. Libecap 1989). In our empirical analysis we control for legal and political barriers to institutional change as we confront our main argument that economic forces are responsible for the expansion of woman's rights.

II. Acquisition of Women's Rights under Coverture

The doctrine of coverture granted nearly all rights to men but was not immutable. There were explicit legal doctrines exempting women from coverture and options to contract out of coverture (Bishop 1875, Wells 1878, Kelly 1882). Since coverture vested all rights in males, evidence of deviations from coverture implies that husbands expected to be better off (with the exception of abandoned women and widows) when wives acquired additional rights. Potential additional rights included access to labor and commercial markets, ownership of market earnings, ownership of separate property, and greater control of household output. In order to rationally seek these rights the husband must capture some of the gains from his wife's market work or through greater productivity of the household or family business (market) property. Historical evidence indicates that both the structure of legal exemptions from coverture and contracting out of coverture were most prevalent in marriages with greater wealth, greater human capital for the wife, and with the wife performing hard to monitor tasks.

A. Legal Doctrine Exempting Women from Coverture

When coverture becomes extremely costly, it will be altogether abandoned and will no longer be the default rule. The cases in which coverture did not apply strongly support this prediction.

Widows and Abandoned Wives

The doctrine of coverture exempted abandoned women, widows, and the wives of mariners. These women were considered *femes sole* and were able to contract on their own accounts, were liable for their debts, and could own property. During a husband's long absence or abandonment, the "doctrine of necessity" (Bishop 1875) allowed married women to purchase food and clothing, and to own separate property. Frequently without a proximate husband, sailor's wives were in a similar situation. Some colonies passed statutes allowing these women as a group to carry on businesses independent of their husbands.[6] Since the costs of coverture when the husband was absent were substantial, the value of a family under a rule granting greater self-ownership likely exceeded that under coverture because under these conditions the woman would have no market income and no market consumption.

Women of Royalty

English royalty were also exempt from coverture. Blackstone (1897, Book 1, "The Rights of Persons" Chapter 4) summarized the rights of the Queen:

> She may purchase lands and convey them, and make leases, without the concurrence of her husband . . . She may likewise sue and be sued alone, without the joining of her husband. She may have a separate property in goods, as well as lands, and has a right to dispose of them by will. In short, in all legal proceedings, she is treated as a *feme sole*, and not as a *feme covert*, and may transact her own concerns[.]

The Queen controlled tremendous wealth, both in property and through her substantial human capital, so deadweight losses from "shirking" or abuse of royal assets by the Queen potentially had huge welfare consequences for the royal family. Her responsibilities as head of state were complex, high monitoring cost activities. A regime in which the Queen was educated and wealthy yet lived under the King's legal cover is conceivable, but likely to be costly, and is not observed.

Additionally, the wives of English lords assumed substantial rights when the lord was away on martial expeditions, as was often the case. Of these women, Theresa S. McMahon (1912, p.126) states,

"Women exercised to the full the powers that were attached to the land either by proxy, by bailiffs, or in person. They levied troops, held courts of justice, coined money, and took part in the assembly of peers that met at the court of the lord." As with the Queen, the cost of shirking by the wife of a wealthy, landed lord was high.[7]

B. Contracting out of Coverture

Unlike the cases above in which well-defined characteristics would automatically lead to exemptions from coverture, individual families could also opt out of some strictures of coverture using either judicial or administrative methods. There were two important methods -- *feme sole* trader status under the common law and marriage settlements under equity law -- by which a married woman could obtain a limited set of rights to contract and to own property. Our predictions imply that the families most likely to opt out of coverture are those (i) with relatively large amounts of wealth, (ii) that face relatively high (shadow) wages for women, and (iii) where the wife performs hard to monitor tasks. Below we examine the legal history of these private methods of avoiding the strictures of coverture.

Feme Sole Traders

Market employment was not completely closed to women under coverture. Without modifying coverture to provide the wife with more rights, however, available employment opportunities were of the low-monitoring-cost variety, in which output was relatively easy to measure or where the wife worked in close proximity to the husband and performed routine tasks. But married women also could undertake additional business activity through the common law doctrine of *feme sole* trader. This practice arose out of custom in the London business community as early as the 17th century (Bishop 1875, Wells 1878). Some states even adopted statutes that allowed women to own and control property separate from their husbands, and to sue and be sued. They could become *feme sole* traders through their husbands' approval, tacit consent, or written documents (Salmon 1986). The *feme sole* had substantial independence in the conduct of business activity.

The use of the *feme sole* exception is consistent with our predictions. Under *feme sole* trader statutes, women possessing high human capital in business activities could utilize that capital. For example, in the South Carolina case of *Megrath v. Robertson*,[8] Ann Robertson acquired *feme sole* trader rights through her husband's tacit consent, and witnesses testified that he benefited from her skill.[9] The evidence also suggests that women with *feme sole* trader rights were frequently engaged in business activity that was characterized by relatively high monitoring costs, such as sales of furniture and the operation of livery stables.

Marriage Settlements

Marriage settlements were formal, private contracts between a husband and wife. They were enforced only in a Court of Chancery, which administered equity law in the twelve states which had courts of equity. Under equity law, marital contracts could be either pre-nuptial or post-nuptial but under coverture, a *feme covert* could not make such legally binding contracts. These contracts took many forms and they allowed women full or partial control over property, to write wills, and to protect their property from the husband's creditors (Salmon 1986). It was not possible to obtain such a settlement without the husband's consent. In a marriage settlement, as in a *feme sole* trader agreement, the husband effectively relinquished the absolute right he had under coverture to control marital property. Salmon (1986) both recognizes the importance of equity courts and concludes (p.81) that equity rules "represented a radical breakthrough for women."

Salmon (1982) analyzed 638 marriage settlements made in South Carolina from 1785 to 1830 and found that the wealthy and upper-middle classes disproportionately used marriage settlements. Women who made such contracts often owned considerable personal rather than real property. The type of occupation of the involved parties is also noteworthy. While information on the occupations of wives is unavailable, the self-described occupations of husbands are known. Thirty percent described themselves as "planters," while twenty-two percent were "gentleman, esquire." Thirteen percent were "merchants," or

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"physicians," and two percent each were "carpenter," "cordwainer," "tailor," or "mariner." All other occupations constituted one percent or less. Salmon's findings comport well with our predictions. First, married couples with greater than average wealth used settlements more frequently. Second, these settlements mainly protected personal property rather than land, where the potential loss from abuse is likely to be higher. The personal property was often in the form of slaves, where potential losses (from mistreatment, overwork, or lack of sustenance) were high. Third, the nature of the jobs held by husbands suggests that high human capital marriages more frequently used settlements. Fourth, couples in which the husband undertook overseas expeditions or was often out of town, such as merchants or mariners (as with *feme sole* trader statutes) also used these settlements. The evidence generally supports our prediction that marriage settlements were used to contract around coverture in cases where its strictures created substantial decreases in the value of the family.

III. Econometric Analysis of State Level Women's Rights

We have compiled a state-level data set that includes information on whether or not a state granted married women rights to separate property and earnings in a particular year. We focus on the period from 1850 to 1920 because this period saw the passage of nearly all married women's property acts. These data are combined with variables taken from the U.S. Census. Table 2 defines these variables and provides summary statistics. We use probit and linear probability models to estimate, at various points in time, the probability that a state will have a certain legal rule. [10]

A. Description of the State Data

We focus on two statutory modifications to the law of coverture which granted married women the right to own and control separate estates and the right to control labor market earnings (Richard C. Chused 1986). Both of these statutory changes increased married women's rights by (partially) abolishing coverture as legal scholars (e.g., Chused 1983), historians (e.g., Salmon 1986), and economists (e.g., Kahn 1996) have noted. These acts were first passed in the 1840s and had been adopted by all but four states

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by 1920.[11] In the eight states where community property law holds, the husband and wife hold marital property in equal and undivided interests. Community property law, however, did *not* give women equal rights since husbands held exclusive control rights to "joint" property and wealth. Indeed, statutory changes through estate and earnings acts were needed to extend equal rights, in the economic sense, to married women.

Our primary economic variables include the percent of a state's population residing in cities of more than 100,000 people (CITY), the percent of a state's school age females attending school (SCHOOLING), and the per capita wealth of state inhabitants (WEALTH). CITY reflects both the extent of the market and the level of human capital. A growing literature on cities shows that wage premiums exist as a result of larger and more specialized markets (James E. Rauch 1993, Edward L. Gleaser 1998). SCHOOLING is used to measure the stock of female human capital.[12] WEALTH is used as a measure of household capital. Our predictions imply that these economic variables (CITY, SCHOOLING, and WEALTH) will be positively related to the expansion in women's rights.

As a preliminary test, we examined the mean values of several variables for states categorized into groups that had either passed or not passed property or earnings acts at the census years of 1860, 1880, 1900, and 1920. Table 3 shows the means for each category of states. States with expanded women's rights are predicted to have a greater fraction of females in school, a larger fraction of the population in large cities, and greater per capita wealth. In all but 1 of the 16 comparisons the mean values are larger for states with expanded women's rights.

C. Panel Data Estimates of the Probability a State has Expanded Women's Rights

We estimate the probability that a woman has a particular right within a specific state for a given year using the following empirical specification, where for any state *i* in census year *t* the complete model is:

(1) $\quad \hat{y}_{it} = X_{it}\boldsymbol{b}_{it} + \boldsymbol{u}_{it}$ $\qquad i = 1, ..., n; t = 1850, 1860, ..., 1920$

$$y_{it} = 1 \quad if \quad \hat{y}_{it} > 0$$
$$\quad\;\; = 0 \quad if \quad \hat{y}_{it} \;\pounds\; 0$$

where $\hat{y}_{it}$ equals the unobserved legal rights response variable for state i in a census year t, y_{it} is the observed state law variable which equals 1 if the state grants women a particular right (and equals 0 if not), X_{it} is a row vector of exogenous variables including a constant, $\boldsymbol{b}_{it}$ is a column vector of unknown coefficients, $\boldsymbol{u}_{it}$ is a state-specific error term, and n is the number of states in the sample. We use probit and linear probability models to estimate (1) using the state data. This generates a sample with 384 state observations (48 states for 8 census years), although we only have enough data to use 357 observations in our estimates.[13]

Probit Estimation

Our probit estimation of (1) uses a dependent variable that equals one if a state had established *both* separate estate and earnings acts. As independent variables we include our economic variables (CITY, SCHOOLING, WEALTH) as well as legal and political variables and census year time dummies.[14]

Legal variables include dummy variables indicating whether or not a state had an equity court system (EQUITY) and whether a state had a community property system (COMMUNITY). These variables control for the possible effects of major differences in state legal regimes. We predict that states with equity courts will be less likely to pass laws eroding coverture because the presence of an equity court system makes it easier for families to contract around coverture using marriage settlements. Even though husbands had "control" of marital property in community property states, it is reasonable to assume that women had more rights than in common law states. We expect negative coefficient estimates for COMMUNITY and EQUITY.

We also include four variables to control for political institutions that can affect the costs of changing property rights through the legislature. DEMOCRATS (the percent of votes for the Democrat in

the last gubernatorial election) measures the general alignment of the electorate with a single political party. We have no prediction for this variable because there is no evidence that party affiliation was important in advancing women's rights; the variable does, however, control for other interest groups that may be aligned with particular parties. MALE (the fraction of males in the state) measures the relative size of a male constituency. A number of scholars (e.g., Ethel B. Jones 1991) have hypothesized that states with relatively few women will grant women's rights more readily.[15] Under this hypothesis, the estimated coefficients for MALE will be positive, however, we offer no prediction of our own. NEIGHBORS (the precent of border states with both acts) measures the extent of expanded women's rights in neighboring states and is used to test for political "contagion," which implies a positive relationship. SUFFRAGE (the number of years a state had a woman suffrage organization) is a measure of the power of women's rights groups within a state. We use this measure because there were no groups explicitly organized to pass property and earnings acts. The longer a state has had a suffrage organization the greater is the political power of women's rights groups. Therefore, we predict that the estimated coefficient on this variable will be positive.

Table 4 reports three specifications of our estimated equation. Specification (1) is our baseline estimate that includes only economic and legal variables as well as census year time dummies. The coefficient estimates for the economic variables all have the predicted sign and are statistically significant. The estimates show that the probability that a state has expanded women's rights increases as city populations increase, as female schooling increases, and as per capita wealth increases. The marginal effects in brackets, show, for example, that a one percent increase in city population will increase the probability of a state having both acts by about one and one-half percent.

The effect of legal variables is mixed. The coefficient estimates for the EQUITY dummy are not significantly different from zero in the baseline specifications. In the remaining specifications that include political variables, EQUITY becomes positive and statistically significant (in 3) indicating that equity law

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states are more likely to enact estate and earnings acts. This finding contradicts the prediction that equity law states are less likely to abandon coverture because equity law already provided a method of contracting around it. The estimated coefficients for COMMUNITY overwhelmingly show that community property states are less likely to enact legislation overturning coverture. This is consistent with the idea that there are smaller gains from these acts in states with community property law.

Specifications (2-3) incorporate the four political variables. Because of missing data for these variables during the early years of our study period, the sample size falls from our baseline specifications. Specification (2) includes DEMOCRATS, MALE, and NEIGHBORS. Specification (3) adds SUFFRAGE as a political variable. The most important observation in these specifications is that all of the coefficient estimates for the economic variables have the predicted sign and are statistically significant, although the standard errors of the estimates are slightly larger in the smallest sample. The overall effect of the political variables is ambiguous. For DEMOCRATS we cannot reject the null hypothesis that party strength has no effect on the probability that a state will expand women's rights. Similarly, for MALE we cannot reject the hypothesis that the gender makeup of a state does not influence women's rights, refuting a longstanding view among historians. The estimated coefficients for NEIGHBORS are consistently negative indicating (contrary to the contagion thesis) that a state is less likely to enact women's rights laws when larger fractions of neighboring states already have similar acts. Finally, our estimates for SUFFRAGE indicate that the strength of a women's rights movement in a state increases the probability that a state will enact earnings and estate laws.[16] This finding comports with most modern conceptions of political economy but is somewhat at odds with the views of historians who have noted little political activity by women's groups during the passage of the married women's property acts.[17]

Linear Probability Estimates with Endogenous Parameters

Our measure of female human capital (SCHOOLING) may be partly determined by women's rights. Indeed, property rights analysis implies that women will invest in more human capital after coverture is

abolished and empirical work by Kahn (1996) shows the behavior of women depends on their rights. To control for the possible endogeneity of SCHOOLING we estimate (1) using a two-stage linear probability model in which this measure of human capital is endogenous.[18]

The last three columns of Table 4 show the coefficient estimates of the two-stage linear probability model. These estimates support the basic predictions of the model and are consistent with the probit estimates. The coefficient estimates for all the economic variables have the predicted signs and are statistically significant. The only deviation from the probit estimates comes from the estimated coefficients for MALE. Probit estimates show that the percent of population that is male has no effect on women's rights legislation but the linear probability estimates are generally positive. These findings are consistent with those who argue that states with few women could attract more by expanding rights. Since the coefficients from the linear probability model provide direct estimates of marginal effects it is easy to compare them to the probit estimates in Table 4. In all cases, the marginal effects from the two-stage linear probability estimates are smaller than the marginal effects (evaluated at the means of the independent variables) from the probit estimates.[19]

Predicted Probabilities of State Law Adoption

To better understand the economic effects implied by our estimates, we calculated the predicted probability that a state would have both estate and earnings acts for various values of the key parameters.[20] If these economic variables (CITY, SCHOOLING, WEALTH) all have their mean values (over the period 1850-1920) the probability of a state having both acts is roughly 75 percent. If all of these variables fall to one standard deviation below their mean the probability falls dramatically, to just 12 to 20 percent. Alternatively, if all of these variables have values one standard deviation above their means the predicted probability rises to near certainty. Table 5 shows similar calculations when changing just one variable at a time, holding all other variables at their means. While such probabilities must be interpreted with care, there appear to be threshold values for these key variables that imply high probabilities that a

state will enact laws undermining coverture. For example, once per capita wealth exceeds $24,000 (again in 1982 dollars), the population in cities over 100,000 exceeds 23 percent, and the rate of female schooling exceeds 73 percent, the probabilities are always greater than 50 percent and usually above 90 percent.

Other Samples and Specifications

Other specifications, using slightly different variables and samples, have been estimated but not reported (see Geddes and Lueck 2000). Some of the more important findings are discussed here. First, the city effect remains strong even when we use different population cutoffs for city size, such as 50,000 and 250,000. Second, including such variables as population density, the percent of blacks, the percent population living on farms, and the number of farms per capita, has no effect on women's rights, nor does it alter the coefficient estimates for the population in cities. Third, the coefficient estimates for the decennial time dummies (1850 was the omitted year) tend to be positive and statistically significant.

We also estimated our model using different variables and sub-samples. For example, we included a dummy for the eleven confederate states to control for political effects common to this group of states and dummy variables for eight census regions. Even though consistent female wage data are not available for this period, we did use a limited set of data on state female teacher's salaries to estimate all specifications in Table 4. These data limited us to sample sizes ranging from just 180 to 220 observations for variables such as the female-male wage ratios, the female wage bill in a state, and the female wage bill relative to male teachers, and the number of female teachers per capita. None of these or other adjustments appreciably altered our estimates.

IV. Conclusion

We believe that an explicit incorporation of property rights into family economics has the potential to illuminate important questions that have eluded the standard common preference model of the family. Our analysis of the shift in property rights from coverture, a system in which men controlled women and owned their output, to self-ownership, a system in which women own themselves and their output and

contract freely with others, is but one example. We analyze these two systems to develop the comparative statics of institutional change and show how greater potential returns to market work and human capital investment increase the gains from self-ownership. This approach stresses the idea that in many cases men gain from enhanced property rights for women. The cumulative weight of our evidence suggests that women's rights tended to evolve in accordance with our predictions. First, historical exemptions from coverture and private contracting out of coverture are consistent with our model. Second, econometric analysis of state laws shows that increases in wealth and the growth of cities (and their attendant specialized markets) is associated with the expansion of women's rights. Greater levels of female human capital – as measured by greater rates of female schooling -- also are associated with the expansion of women's rights. This last finding is robust to controls for the endogenous effect of rights expansion on human capital acquisition.

There are many potential extensions of this study. First, though we take a market approach that generates demand for changes in property rights, we do include several political control variables in our empirics. A more complete political model would consider the cost of such changes and how political institutions might influence these costs. Second, while our study has focused on the historical development of women's rights under Anglo-American law, our approach has promise for understanding the varying treatment of women across countrie s. Market expansion and growth in wealth and female human capital are also predicted to lead to expansions in women's property rights across countries.

REFERENCES

Albert, A. and Anderson, J.A. "On the Existence of Maximum Likelihood Estimates in Logistic Regression Models." Biometrika, 1984, 71(1), pp. 1-10.

Allen, Douglas W. "What Does She See in Him?: The Effect of Sharing on the Choice of Spouse." Economic Inquiry, January 1992, 30(1), pp. 57-67.

Barzel, Yoram. "An Economic Analysis of Slavery." Journal of Law and Economics, April 1977, 20 (1), pp. 87-110.

Becker, Gary S. A Treatise of the Family. 2nd Ed. Cambridge: Harvard University Press, 1991.

Besley, Timothy. "Property Rights and Investment Incentives: Theory and Evidence from Ghana." Journal of Political Economy, October 1995, 103(5), pp. 903-937.

Bishop, Joel P. Commentaries on the Law of Married Women Under the Statutes of the Several States, and at Common Law and in Equity. Boston: Little, Brown and Company, 1875.

Chused, Richard C. "Married Women's Property Law: 1800-1850." Georgetown Law Journal, 1983, 71(2), pp. 359-1425.

Engerman, Stanley. "Some Considerations Relating to Property Rights in Man." Journal of Economic History, March 1973, 31(1), pp. 43-65.

Geddes, Rick and Lueck, Dean. "The Gains from Self-Ownership and the Expansion of Women's Rights." Stanford Law and Economics Olin Working Paper No. 181. August 2000. http://papers.ssrn.com/paper.taf?abstract_id=236012

Glaeser, Edward L. "Are Cities Dying?" Journal of Economics Perspectives, Spring 1998, 12(2), pp. 139-160.

Goldin, Claudia D. "Monitoring Costs and Occupational Segregation by Sex: A Historical Analysis." Journal of Labor Economics, January 1986, 4(1), pp. 1-27.

Hamilton, Gillian. "Property Rights and Transaction Costs in Marriage: Evidence from Prenuptial Contracts." <u>Journal of Economic History</u>, March 1999, <u>59</u>(1), pp. 68-103.

Jones, Ethel B. "The Economics of Woman Suffrage." <u>Journal of Legal Studies</u>, June 1991, <u>20</u>(1), pp. 423-38.

Kahn, B. Zorina. "Married Women's Property Laws and Female Commercial Activity: Evidence from United States Patent Records, 1790-1895." <u>Journal of Economic History</u>, June 1996, <u>56</u>(2), pp. 356-388.

Kelly, John F. <u>A Treatise on the Law of Contracts of Married Women</u>. Jersey City, NJ: F.W. Linn & Company, 1882.

Libecap, Gary D. <u>Contracting for Property Rights</u>. Cambridge: Cambridge University Press, 1989.

Lundberg, Shelly and Pollak, Robert A. "Bargaining and Distribution in Marriage." <u>Journal of Economic Perspectives</u>, Fall 1996, <u>10</u>(4), pp. 139-158.

McMahon. Theresa S. <u>Women and Economic Evolution or the Effects of Industrial Changes Upon the Status of Women</u>. Madison: Bulletin of the University of Wisconsin Press, 1912.

Mill, John Stuart. <u>The Subjection of Women</u>. Cambridge: MIT Press, 1970. Original in 1869.

Norton, Mary Beth. <u>Liberty's Daughters: The Revolutionary Experience of American Women, 1750-1800</u> Boston: Little, Brown and Company, 1980.

Rauch, James E. "Productivity Gains from Geographic Concentration of Human Capital: Evidence from the Cities." <u>Journal of Urban Economics</u>, November 1993, <u>34</u>(3), pp. 380-400.

Salmon, Marylynn. "Women and Property in South Carolina: The Evidence from Marriage Settlements, 1730 to 1830." <u>William and Mary Quarterly</u>, 1982, <u>39</u>(4), pp. 655-685.

_____. <u>Women and the Law of Property in Early America</u>. Chapel Hill: University of North Carolina Press, 1986.

Schultz, T. W. "Institutions and the Rising Economic Value of Man." <u>American Journal of Agricultural Economics</u>, December 1968, <u>50</u>(5), pp. 1113-1122.

Thurman, Kay Ellen "The Married Women's Property Acts." Unpublished thesis, University of Wisconsin Law School, 1966.

Wells, John C. A Treatise on the Separate Property of Married Women under the Recent Enabling Statutes. Cincinnati: Robert Clarke & Company, 1878.

Wortman, Marlene. Ed. <u>Women in American Law</u> (New York:Holmes & Meier, 1985-1991). Vol.1 "From Colonial times to the New Deal. Vol.2. The struggle toward equality from the New Deal to the present." (with Judith A. Baer).

TABLE 1 -- HISTORICAL DEVELOPMENT OF WOMEN'S RIGHTS IN THE UNITED STATES

Women's Rights and the U.S. Economy	1840	1880	1920
States allowing separate estate for married women.	0/27 [0]	36/38 [95]	47/48 [98]
States allowing earnings owned by married women.	0/27 [0]	31/38 [82]	46/48 [96]
States allowing both earnings and estate ownership.	0/27 [0]	30/38 [79]	45/48 [94]
Percent of state population in cities over 100,000.	3.2	8.2	25.9
Per capital wealth (1982 dollars).	$5,108[*]	$9,910	$22,449

Note: Several states were territories during this period. Percent in []. * 1850.

TABLE 2 -- DESCRIPTIVE AND SUMMARY STATISTICS, 1850-1920

VARIABLE NAME & DEFINITION	Min	Max	Mean	Std Dev	Obs
CITY: Percent of state population living in cities larger than 100,000.	0.00	65.55	7.83	13.26	384
SCHOOLING: Percent of school age females attending school.	0.90	93.60	56.41	16.25	358
WEALTH: Per capita wealth in the state (1982 dollars).	1,179.5	82,195.0	13,657.21	9,553.91	358
COMMUNITY = 1 if state had a community property system.	0.00	1.00	0.17	0.37	384
EQUITY = 1 if state had an equity court system.	0.00	1.00	0.25	0.43	384
DEMOCRATS: Percent of total vote for Democrat in most recent gubernatorial election.	0.00	96.00	43.64	16.45	320
MALE : Percent of population that is male.	48.00	92.00	53.28	6.05	359
NEIGHBORS: Percent of border states with both estate and earnings acts.	0.00	100.00	55.38	39.92	384
SUFFRAGE: Years since the state had an organized women suffrage organization.	-47	72	2.78	26.05	336

Note: The full data set has 384 observations (48 states for 8 census years), although for specific variables this is lower because of data limitations. The values for EQUITY and COMMUNITY do not vary over time for any states. The number of states with equity courts is 12 and the number of states with community property is 8.

Year and variables	State has both separate estate and earnings acts	
	No (observations)	Yes (observations)
<u>1860</u>		
Real wealth per capita (1982 dollars).*	9,908 (33)	6,865 (5)
Percent of school age females in school.	48.56 (34)	56.80 (5)
Percent of state's population in cities over 100K.*	1.63 (43)	14.60 (5)
<u>1880</u>		
Real wealth per capita (1982 dollars).*	7,895 (15)	11,469 (29)
Percent of school age females in school.*	54.74 (16)	67.10 (32)
Percent of state's population in cities over 100K.*	1.88 (16)	8.12 (32)
<u>1900</u>		
Real wealth per capita (1982 dollars).*	11,745 (9)	16,569 (39)
Percent of school age females in school.*	47.00 (9)	54.51 (39)
Percent of state's population in cities over 100K.	4.18 (9)	11.86 (39)
<u>1920</u>		
Real wealth per capita (1982 dollars).	19,333 (4)	23,394 (44)
Percent of school age females in school.*	62.83 (4)	70.16 (44)
Percent of state's population in cities over 100K.	5.38 (4)	17.71 (44)

Note: "Yes: indicates a state had enacted both separate estate and earnings legislation in the given year; "no" indicates a state did not have both acts. * indicates statistically significant difference.

TABLE 4—ESTIMATES OF COVERTURE DECLINE—1850-1920

	Probit			2-stage linear probability		
Exogenous Variables	(1)	(2)	(3)	(4)	(5)	(6)
CONSTANT	-3.56	-6.35	-4.12	-0.23	-0.80	-0.47
	(5.18)**	(1.66)**	(1.18)	(2.08)	(2.76)**	(1.47)
Economic Variables						
CITY (100K)	0.044	0.047	0.032	4.63E-03	5.34E-03	3.46E-03
	[0.016]	[0.016]	[0.011]	(3.36)**	(3.95)**	(2.19)**
	(3.72)**	(3.27)**	(2.04)**			
SCHOOLING	0.023	0.055	0.045	5.11E-03	8.78E-03	4.89E-03
	[0.009]	[0.018]	[0.016]	(2.43)*	(4.05)**	(1.81)*
	(2.84)**	(4.40)**	(2.97)**			
WEALTH	4.64E-05	5.81E-05	4.96E-05	8.35E-06	6.36E-06	6.19E-06
	[1.74E-05]	[1.94E-05]	[1.72E-05]	(3.16)**	(2.22)*	(2.06)**
	(3.46)**	(2.51)**	(1.98)**			
Legal Variables						
EQUITY	-0.089	0.49	0.69	4.17E-03	0.090	0.11
	(0.36)	(1.51)	(1.85)*	(0.10)	(2.07)**	(2.34)**
COMMUNITY	-2.09	-2.97	-2.88	-0.39	-0.49	-0.50

	(6.23)**	(5.87)**	(5.32)**	(6.93)**	(8.57)**	(7.95)**
Political Variables						
DEMOCRATS	------	2.44E-03	-8.99E-04	------	1.45E-04	9.3E-04
		(0.00)	(0.097)		(0.11)	(0.07)
MALE	------	0.012	-6.88E-03	------	7.48E-03	7.99E-03
		(0.20)	(0.098)		(1.74)**	(1.78)*
NEIGHBORS	------	-0.038	-0.038	------	-5.30E-03	-5.41E-03
		(5.10)**	(4.86)**		(5.50)**	(5.06)**
SUFFRAGE	------	------	0.038	------	------	5.40E-03
			(1.85)*			(2.97)**
Census year dummies	Yes	Yes	Yes	Yes	Yes	Yes
Goodness-of-Fit						
χ^2	271.79	280.64	250.54	NA	NA	NA
F-Value	NA	NA	NA	37.55	35.25	28.51
Log-likelihood	-106.33	-69.79	-62.40	NA	NA	NA
Adjusted R^2	NA	NA	NA	0.58	0.62	0.61
Observations (=1)	357 (148)	320 (117)	282 (108)	320 (148)	320 (117)	282 (108)

Dependent variable = 1 if a state had both earnings and separate estate acts; = 0 if not. Note: Absolute values of t-statistics are in parentheses. Marginal effects for probit estimates are in brackets. *significant at the 10% level, 1-tailed test for economic variables, 2-tailed test otherwise. **significant at the 5% level, 1-tailed test for economic variables, 2-tailed test otherwise.

TABLE 5—PREDICTED PROBABILITY A STATE HAS BOTH EARNINGS AND SEPARATE ESTATE ACTS, 1850-1920

Comparison		Minimum values	Mean values	1 standard deviation higher	Maximum values
CITY (VS. WEALTH)		WEALTH = $1,180	WEALTH = $14,000	WEALTH =$24,000	WEALTH = $82,000
0.0%	(minimum)	0.313	0.601	0.798	1
9.4%	(mean)	0.480	0.757	0.899	1
23.3%	(1 standard deviation higher)	0.725	0.910	0.973	1
65.5%	(maximum)	0.995	1	1	1
SCHOOLING (VS. CITY)		CITY = 0.0%	CITY = 9.4%	CITY = 23.3%	CITY = 65.6%
7 %	(minimum)	0.005	0.016	0.069	0.686
43.5%	(1 standard deviation lower)	0.290	0.454	0.703	0.994
58.4%	(mean)	0.606	0.760	0.912	1
73%	(1 standard deviation higher)	0.829	0.918	0.979	1
93.6%	(maximum)	0.980	0.994	0.999	1
SCHOOLING (VS. WEALTH)		WEALTH=$1,180	WEALTH=$14,000	WEALTH=$24,000	WEALTH=$82,000
7%	(minimum)	0.002	0.016	0.059	0.965
43.5%	(1standard deviation lower)	0.196	0.450	0.674	1
58.4%	(mean)	0.481	0.757	0.899	1
73%	(1 standard deviation higher)	0.777	0.934	0.981	1

93.6%	(maximum)	0.971	0.996	.9994	1

Note: Each entry is the predicted value from the probit equation presented in table 4 using specification (2). Because the distributions for CITY and WEALTH are asymmetric we do not examine probabilities for one standard deviation below the mean.

FOOTNOTES

[1] While married women's property belonged to their husbands, most single women were dependents of their male relatives. Although a single woman legally had the same property rights as a man, powerful norms and private restrictions severely limited the rights of divorcees, spinsters, and widows (Mary Beth Norton 1980).

[2] We recognize a divergence between economic and purely legal rights because enforcement costs limit the application of legal doctrine (Barzel 1977). We treat economic and legal rights as virtually synonymous since coverture codified customs and norms and because coverture's restrictions extended beyond the family into markets and society.

[3] Using these assumptions Rick Geddes and Dean Lueck (2000) develop a formal analysis of these two property rights regimes.

[4] Coverture required that husbands support their wives and upon the husband's death dower (usually 1/3 of the estate) gave a woman a life estate in the husband's real property (Bishop 1875).

[5] Scholars of the time recognized the deleterious effects of coverture on wives' incentives. For example, Bishop (1875, p. 681) states, ". . . the common law of married women, [which] in so far as it is practically

carried out, tends to make wives lazy. Why should they exert themselves when no fruits of their labor are their own?"

[6] Marlene Wortman (1985 p. 90) states: "In some colonies, after a wife had been deserted for a few years she could petition the legislature for a special act allowing her to become a *feme sole* trader … The wives of sailors were placed in this position so often that some colonies passed statutes, continuing into the nineteenth century, that enabled the whole group to become *feme sole* traders."

[7] John Stuart Mill (1869, p.493) also noted: "The ladies of reigning families are the only women who are allowed the same range of interests and freedom of development as men . . ."

[8] *Catherine Megrath v. Administrators of John Robertson and Ann Robertson*, 1 Desaussure 445 (1795).

[9] The case states: "[T]he majority of respectable and well informed witnesses stated that for many years she had acted and had been considered a sole trader; was active and industrious, and made great profits in her separate dealings, and bought property for herself that her husband knew and acquiesced in her conduct; that he sometimes borrowed money from her, and returned it."

[10] The key sources are the U.S. Census (state economic variables), and various legal treatises (Bishop 1875, Wells 1878, Kelly 1882) and state annotated codes (married women's property acts). These sources are described in detail in Geddes and Lueck (2000). We consider all states except Alaska and Hawaii; we do not include the District of Columbia. Geddes and Lueck (2000) also use duration analysis to estimate the determinants of the time at which these acts were adopted. The findings are consistent with those presented here.

[11] Some early property acts did not actually give married women the rights to control separate property (Chused 1983, Kahn 1996). We include only those married women's property acts that gave a woman *independent control and management* of her separate property.

[12] We also estimated all of our models using female literacy rates instead of schooling. As shown in Geddes and Lueck (2000), this did not appreciably change our results.

[13] The panel of states is not balanced because some states were not yet part of the U.S. during our time period, and data were not always available for all states, particularly during territorial status.

[14] Fixed effects logit is not possible because our data exhibit "quasicomplete separation" which makes it impossible to generate finite maximum likelihood parameter estimates (A. Albert and J.A. Anderson 1984). We also estimated our model using regional dummies to no effect.

[15] Jones hypothesizes that a greater proportion of males would increase the probability that men would support suffrage rights. Her evidence on congressional voting on suffrage issues is consistent with this view. Historians generally have a similar thesis (e.g., Kay Ellen Thurman 1966) arguing that men can attract women to a state with the promise of more rights.

[16] In order to examine the marginal effect of adding SUFFRAGE to the model we also estimated specification (1) using the smaller samples shown in (2). These estimates are virtually identical to those in (1).

[17] For example, Thurman (1966, p. 7) writes, "The history of the Married Women's Property Acts, however, shows no feature more striking than the lack of sustained controversy. This picture is in contrast with the struggle over women's suffrage; there is no evidence of an organized women's lobby supporting the property measures."

[18] Timothy Besley (1995) also takes a linear probability approach when examining the effects of property rights on land investment (e.g., plant trees or not) but treats land rights as endogenous. In our case rights are the primary variables of interest but investment (in human capital rather than land) is treated as endogenous. The first stage equation for SCHOOLING included the following independent variables: CITY, WEALTH, DEMOCRATS, MALE, confederate state dummy, percent of foreign born in states, average

value of farms in state, state population density, percent of population living in urban areas, annual value of manufacturing output, and census year dummies.

[19] This is also true if one compares the probit marginal effects to the coefficient estimates for a linear probability model that does not treat SCHOOLING as endogenous. These effects, however, tend to be slightly larger than those from the two-stage estimates.

[20] Because the linear probability model is not constrained to values of the dependent variable that lie in the 0-1 interval we cannot use these estimates to calculate predicted probabilities.