

# Marrying for Money: Evidence from the First Wave of Married Women's Property Laws in the U.S..\*

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## Abstract

One way in which marriage generates value is by allowing couples to pool property for the purposes of risk sharing and investment. This dimension of marriage has received little attention in the literature, in part because it is difficult to separate this effect from the gains from division of labor within the household. We measure the impact of a class of married women's property laws introduced in the American South during the 1840s on assortative matching in the marriage market. These laws did not grant married women autonomy over their separate property; they merely shielded this property from seizure by their husbands' creditors. This had the dual effect of mitigating downside risk while restricting a husband's ability to borrow against his wife's property; it also preserved the bulk of the wife's property as an inheritance for the couple's children. As such, these laws affected a couple's ability to pool property and access credit without affecting the relative bargaining position of husbands and wives; this allows us to shed light on the importance of property in the marriage market. Using a newly compiled database of linked marriage and census records, we show that, these laws had a heterogeneous effect on the marriage market in different areas of the wealth distribution. We provide an interpretation for these results.

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\*Preliminary and incomplete.

# 1 Introduction

Do people marry for money? It's a crude way of asking a more nuanced question: what role does the ability to pool property for risk sharing, investment, and increased access to credit play in the marriage decision? The fact that people are more likely to marry within their own socioeconomic circles suggests that wealth is an important determinant of attractiveness in the marriage market. However, wealth may be correlated with other attributes, such as health, culture, taste or human capital, all of which are important to marriage decisions. Moreover, assortative matching on socioeconomic status may simply be a product of search frictions, if people mainly interact with others from their own socioeconomic circles.

To pin down the importance of wealth in the marriage market, one would ideally like to observe a legal change that affects how property can be used within the marriage, for example by enabling or restricting the use of spousal wealth as collateral for loans. Such an institutional change is particularly informative because changes in the legal treatment of marital property should not affect the matching technology. If there is an impact on marriage markets, it must be that people are attracted to each other's wealth and that assortative matching on socioeconomic status is not simply driven by search frictions. To isolate the gains from marriage that can be attributed to the pooling of property, it is crucial to identify a legal change that leaves property rights, and therefore bargaining power, within a marriage unchanged. Any institutional change that affects bargaining power will also affect the division of labor between partners, or the productivity of individual spouses – something that has received ample attention in the literature.<sup>1</sup> It may also affect non-monetary utility transfers between spouses, which further muddies the waters. Such a legal change is, of course, difficult to find.

In this paper, we exploit a unique institutional development in the American South during the 1840s – the introduction of a specific class of married women's property laws – that affected the allocation of property and married couples' interaction with credit markets, while keeping

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<sup>1</sup>For instance, Chiappori et al (2002) explores the impact of divorce laws on the division of labor between spouses, citing changes in bargaining power as the driving mechanism. Geddes & Lueck (2002) discuss the adoption of U.S. state statutes allowing women to own and control property. They argue that the adoption of these laws can be explained in part by increasing returns to women's work: if women invest more effort in production when they hold property rights within the family, this may explain why male dominated legislatures were willing to pass such legislation.

bargaining power between partners unchanged. Prior to the introduction of these laws, a woman's property became her husband's property upon marriage. These laws altered this default, but in a very limited way. They did not give a married woman the right to determine how her property was used, but, instead, shielded her assets from seizure by her husband's creditors. In addition, the husband could not spend his wife's wealth, unless his own income and wealth were insufficient to provide for the family. The consequences were twofold: the laws shifted the wife's property from consumption to saving and children's inheritance; and they removed the possibility of using the wife's property as collateral for loans, while guaranteeing a minimum standard of living in the event of default. Because these laws predated modern divorce laws and did not allocate economic power to women, they altered the way in which marital property could be pooled while effectively keeping each partner's bargaining position unchanged.

This study is not just of historical relevance. If a potential spouse's property matters for marriage decisions, and if marriage markets respond to policy interventions affecting the use of spousal wealth, this has interesting implications for the marriage market effects of contemporary institutions and the evolution of marriage markets over time. For example, if pooling property for risk sharing is an important motive for marriage, then marriage markets may be influenced by bankruptcy protection regimes. Similarly, if pooling property to access credit is an important motive for marriage, then marriage markets may be influenced by innovations in the credit market that make loans – especially home loans – easier to come by. The way in which the marriage market interacts with these types of institutions is informative about how marriage rates and assortative matching have evolved over time. This has received little attention in the literature to date.

We compile a new database of records of marriages contracted in southern states between 1840 and 1851, which we link to the census of 1840. Marriage records allow us to observe the names of husbands and wives, as well as the date and county of marriage. Links to the 1840 census allow us to construct a measure of pre-marriage familial assets for men and women: average slave wealth held by families with a given surname from a given state. We define “marriage markets” to be state-years, and we classify couples based on the premarital wealth of the husband and wife. We use a statistic based on Choo and Siow (2006) to measure the systematic gains from assortative versus non-assortative matches, and we investigate how this changed after the introduction of a married women's property act. Because different states passed laws at different times, we can include both

state and year of marriage fixed effects in our regressions. We show that married women’s property laws tended to increase the gains from assortative matching among couples with relatively richer husbands; however, they tended to decrease the gains from assortative matching among couples with relatively richer wives.

## 2 Related Literature

There is an extensive body of literature on the economics of marriage, pioneered by Becker (1993, 1991) who argues that the gains from marriage stem from a couple’s ability to exploit increasing returns through the division of labor. Subsequent work has built on this idea, considering bargaining and transfers between partners as components of the gains from marriage.<sup>2</sup>

The empirical literature points to a recent decline in marriage rates accompanied by an increase in assortative matching on economic status (Choo and Siow 2006; Greenwood et al 2014). This has sparked new interest in understanding the way economic institutions interact with marriage markets. One the goals of the current paper is to better understand how legal institutions have an impact on marriage decisions. Though our results cannot be simply extrapolated to the present, they do provide insights in the relevant trade-offs faced by couples. Most of the existing literature on legal institutions and the economics of marriage emphasizes the role of institutions in affecting bargaining power within the household. For example, Chiappori et al (2002) show that divorce laws increasing the bargaining position of women lead to a reduction in married women’s labor supply. There is considerably less emphasis on the direct impact institutions have on household resource allocation, let alone the interaction with credit markets, and the way this affects marriage choice. The current paper attempts to fill this gap in the literature.

This paper also contributes to the literature on assortative matching in the marriage market. Assortative matching on any trait – such as age or economic status – can be generated by different models of marriage matching. Random matching models with search frictions posit that potential mates randomly encounter one another and choose to form a match if the utility they derive from the match exceeds a certain threshold. These models may generate assortative matching if people with similar characteristics are more likely to encounter one another in the marriage market.<sup>3</sup>

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<sup>2</sup>See Weiss (1997) for an overview.

<sup>3</sup>See Adachi (2003) and Hirsch et al (2010).

Non-random matching models posit that people have preferences for certain traits in the marriage market. Assortative matching will occur in a frictionless setting with stable matches if certain traits are universally preferred by both men and women – in this case, highly ranked men will pair with highly ranked women, and lower ranked men will pair with lower ranked women.<sup>4</sup> Alternatively, if people prefer mates with similar characteristics to themselves, assortative matching will also tend to occur when matches are stable.<sup>5</sup>

The fact that different marriage matching models generate assortative matching predictions makes it difficult to use the observation of assortative matching to differentiate between these models. Hirsch et al. (2010) show that assortative matching emerges in online data – a relatively frictionless setting – and argue that this indicates that people have explicit preferences for similar mates in the dating market. Our paper takes a different approach: we show that changes in marital property regimes generate changes in assortative matching on economic status. Since these property regimes had no effect on marriage matching institutions, this only makes sense if spousal economic assets enter directly into a person’s utility function.

Finally, this paper adds to the literature on married women’s property laws in the United States. This is a topic that has received much attention from economists and economic historians; however, it has been difficult to introduce pre-marriage characteristics into any empirical analysis of these laws due to data limitations. In particular, it is difficult to observe pre- and post-marriage socioeconomic characteristics of both halves of a couple, and to know whether a couple was married before or after the passage of a married women’s property law. Most examinations of the consequences of these laws have focused on their effect on women’s economic activity or wealth holding, typically looking at state-level changes in these outcomes following the passage of a property law. Kahn (1996) explores the effect of married women’s property laws on women’s patenting, examining changes in the rate of patenting among women at the state level. Inwood and Van Sligtenhorst (2004) look at changes in women’s property holding that occurred after the passage of a married women’s property law in Ontario, Canada. Geddes et al (2012) analyze the effect of property laws on children’s school attendance at the state level. Koudijs and Salisbury (2015) analyze the impact these property laws had on family investment decisions.

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<sup>4</sup>See Chen et al (2013) and Olivetti et al (2015) for examples of such models.

<sup>5</sup>Gale and Shapely (1962); Hirsch et al (2010); Weiss (1997).

Other work has discussed the decision by male-controlled state legislatures to enact married women's property laws; this work implicitly models their theoretical consequences. Geddes and Lueck (2002) argue that allocating formal property rights to women makes them more invested in the household's financial position, thus creating a greater incentive for them to efficiently allocate their time and labor in service of bettering this position. They claim that married women's property laws were passed when wealth levels and rates of female school attendance increased, which raised the value of aligning women's incentives with this goal. Doepke and Tertilt (2009) argue that the passage of married women's property acts reflects fathers' investment in their daughters' marital bargaining position. As an increase in women's bargaining position tends to increase children's educational attainment, increasing daughters' bargaining position became more important to fathers as technological change increased the value of human capital. Hamilton (1999) analyzes choices of property regimes by married couples in 19<sup>th</sup> century Quebec, who could opt for separate or community of property through prenuptial contracts.

### 3 Historical Background

Prior to the introduction of married women's property acts, married women's property was governed by American common law, which dictated that virtually all property owned by a woman before marriage or acquired after marriage belonged to her husband. The exception was real estate. Although the fruits derived from real estate belonged to the husband (who could use this revenue as collateral for a loan), the property itself was inalienable and was held in trust by the husband for his wife. It was supposed to pass on to their children or otherwise would revert back to the wife's family (Warbasse 1987, p.9). In most of the states we consider in our empirical analysis prenuptial agreements were problematic to enforce and therefore rare (Salmon 1986, p. xv). The key difficulty lay in the dual legal system in the U.S. at the time. The dominant legal framework was American common law. Under this system prenuptial agreements were not valid. To 'fix' some of the inequities of common law, a separate body of equity law had evolved. This branch of the law did support prenups, but it was less well established and was administered in separate chancery courts. This created two problems. First, as many southern states did not structurally report equity cases, chancery judges often knew little of the equity jurisprudence. Second, there were few

courts that solely administered equity law. Usually, a judge mixed equity and common law cases. As a result, decisions were rife with inconsistencies (Warbasse 1987, p. 165-6).

Warbasse (1987) suggests that the problems associated with equity law and prenuptial agreements spurred the passing of State statutes modifying the common law to better protect women's assets within a marriage. These laws were introduced at different times in different states.<sup>6</sup> The acts can be broadly separated into four categories: debt relief, or acts that shielded women's property from seizure by husbands' creditors but did not allow women to control their separate property; property laws, or laws that allowed women to independently own and dispose of real and personal property; earnings laws, which allowed women to control their own labour earnings; and sole trader laws, which allowed women to engage in contracts and business without their husbands' consent.

We focus on the first class of married women's property acts ("debt relief"), which were enacted in most southern states during the 1840s. Interestingly, the states that did not pass these law changes had the most well developed equity law systems, such as Virginia and Georgia (Warbasse 1987, p. 167). The timing of the passing of these laws coincided with a major recession, following the Panic of 1837, which precipitated a large decline in cotton prices. This depressed land and slave prices in the southern states, where the economy and financial system was based largely around plantation agriculture (McGrane 1924). Historians argue that these laws were passed in response to the economic hardship created by this recession, and the observation that men's losses were also being borne by their wives (Kahn 1996). At the time all loans were full recourse. If a husband's assets were not sufficient to cover a mortgage, for example, creditors could lay claim on all other possessions a couple might have had, including a wife's assets. For example, an article in the 1843 Tennessee Observer states that "the reverses of the last few years have shown so much devastation of married women's property by the misfortunes of their husbands, that some new modification of the law seems the dictate of justice as well as prudence." The Georgia Journal argued in the same year that there is no good reason "why property bequeathed to a daughter should go to pay debts of which she knew nothing, had no agency in creating, and the payment of which, with her means, would reduce her and her children to beggary. This has been done in hundreds of instances, and should no longer be tolerated by the laws of the land" (quoted in Warbasse 1987, p. 176-

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<sup>6</sup>Information on married women's property acts is compiled from a number of sources, including Kahn (1996), Geddes and Lueck (2002), Warbasse (1987), Kelly (1882), Wells (1878), Chused (1983) and Salmon (1982).

177). This seems to have been a widespread sentiment, and even states that did not succeed in passing a married women's property act during the 1840s proposed them to the state legislation. For example, Georgia failed to pass an act in 1843 by a margin of 18 out of 173 votes. Tennessee did not pass an act until 1850, even though the issue had clearly been raised prior to this.

The first such law was passed in Mississippi in 1839, which merely sheltered a woman's slaves from seizure by her husband's creditors; an additional law was passed there in 1846, securing the income earned from her real and personal property to her separate estate. Alabama, Florida, Kentucky, North Carolina, and Tennessee all passed similar property laws during the 1840s. Virginia and Georgia did not pass laws during the period, and Louisiana and Texas were community property states which kept property owned before marriage separate prior to the 1840s. Arkansas passed a weak version of a property law in 1846, which was generally considered nothing more than a strengthening of the equity tradition, which governs premarital contracts (Warbasse 1987). Table 1 contains a list of important legislative dates for each state that we use in our analysis. In all cases, the statutes did not grant women the right to control their separate property; it was kept in a trust administered by their husbands. As Kahn (1996) writes, "control remained with the husband, and courts interpreted the legislation narrowly to ensure that ownership did not signify independence from the family" (p. 361).

While the married women's property acts passed in the South during the 1840s did not grant women economic independence, they did place real constraints on the way in which this property was used. As said, wives' assets were protected from husbands' creditors. At the same time, a wife could not contract debt in her own name. Under common law a married women ( or 'feme covert') was legally unable to sign contracts; common law assumed that a family was a single legal entity, led by the husband. The early married women's property acts did not (yet) change this feature of American common law. This put a wife's assets in a special position: neither husband nor wife could use them as collateral to obtain credit. In some states an exception was made to furnish the household with "common law necessities," which included food and shelter.

In general, husbands and wives were allowed to jointly sell wife's assets. However, this did not mean that the ownership changed or that proceeds could be consumed. The proceeds from the sale had to be reinvested as part of the wife's separate estate. For example, an Alabama decision from 1857 maintains that, even if a wife's property can be sold by a husband and wife jointly, the



proceeds “are to be reinvested in ‘the purchase of other property’ – not sold for money” (31 Ala. 39). The statute was interpreted to protect a wife’s property “not only against third persons, but against the husband himself.” This principle seems to have been broadly upheld in court.

A secondary motive for passing the married women’s property acts was the legislatures’ concerns with the ‘character’ of certain men. In 1846 the Alabama legislature commented that the passing of a law would not only protect a women against a husband’s insolvency, but also against his “intemperance or improvidence”. In 1839, a newspaper from Vicksburg, Mississippi argued, somewhat less eloquently, that “the property of ladies should be guarded against the squandering habits of a drunken and gambling husband. The ladies are virtuous and prudent creatures – they never gamble, they never drink, and there is no good reason why the strong arm of legislation should not be extended to the protection of the property they bring into the marriage bargain” (quoted in Warbasse 1987, p. 150 and 170).

Of course, the extent to which these laws had any meaningful impact depends on the degree to which women held property during this period. As women’s labor force participation was very low, women’s property would have to come from family. The historical evidence suggests that women frequently received real estate and personal wealth from their family. The first channel was dowry. Though there is a serious lack in research on dowry in the Antebellum South, historical anecdotes suggest that dowry was a frequent phenomenon. Thomas Jefferson’s wife, for example, received a dowry of 132 slaves and many thousands of acres of land (Gikandi 2011). Auslander (2011) gives numerous examples from Antebellum Greenwood county, Georgia of the transfer of slave property in the form of dowry. The second channel was inheritance. After the American Revolution the United States had done away with the British standard of primogeniture. In 1792 most US states (including the South) had passed so-called intestacy laws that guaranteed that in the absence of a will, sons and daughters would receive equal shares in the inheritance from their parents (Salmon et al. 1987, p. 64-65; 83). There is very little evidence on the exact shares stipulated in actual wills, but anecdotal evidence suggests that women could receive sizable inheritances, often in the form of slaves (Warbasse 1987, p. 143-144; Brown 2006).<sup>7</sup>

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<sup>7</sup>The tendency to will real estate to men seems to have been a national phenomenon in the first half of the 19<sup>th</sup> c.: see Salmon et al. (1987, p. 111) on the case of Bucks county in Pennsylvania.

## 4 Data and Measurement

We link data across two sources: county records of marriages contracted in the South between 1840 and 1851 from familysearch.org; and the complete count 1840 census from ancestry.com. We begin by extracting information from approximately 300,000 marriage records from southern states dated between 1840 and 1851 from the genealogical website familysearch.org. These electronic records contain the full name of both the bride and the groom, the date of marriage, and the county of marriage. We are able to find marriage records from nine states: Alabama, Arkansas, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, Tennessee, and Virginia. Table 2 contains information about the number of marriage records from each state, as well as the coverage of these records. As can be seen from columns (2) and (3) of this table, our marriage record data cover a majority of counties in most states.

The second data source is a complete count 1840 census. We use this to measure the pre-marriage socioeconomic status of husbands and wives. The only socioeconomic information available in the 1840 census is slaveholdings. Specifically, each 1840 census record is taken at the household level, and contains information on the name of the household head as well as the number of free and enslaved persons residing in the household. So, we calculate 1840 household slave wealth as:

$$w_{1840} = \log(377S + 1)$$

Here,  $S$  is the number of slaves in the household. We multiply this by the average slave price in 1840, which is \$377, measured in current dollars (Historical Statistics 2006).

Because we do not have detailed demographic (or even first name) information on household members, it is difficult to link our couples to their precise 1840 households. Instead, we compute a measure of “familial assets” by averaging log slave wealth by state and surname, and we link this to our matched sample by state of marriage and surname (using the maiden name from marriage records for women). So, the pre-marital wealth of person  $i$  with surname  $j$  who was married in state  $s$  will be:

$$\hat{w}_{i,j,s} = \frac{1}{K_{j,s}} \sum_{k=1}^{K_{j,s}} w_{k,j,s}$$

Here,  $K_{j,s}$  is the number of households in state  $s$  headed by someone with the surname  $j$ . We

match the spelling of surnames exactly. However, if no exact match can be found, we search the 1840 census for surnames that approximately match surnames in our marriage records. We define an approximate match as one that scores above a certain threshold in a test of alphabetic string similarity.<sup>8</sup> Overall, we are able to obtain an estimate of pre-marital wealth for 80% of our marriage records.

Table 3 contains further information about our measure of premarital wealth. In panel A, we present summary statistics about log (household-level) slave wealth from the 1840 census ( $w_{1840}$ ) for all slave states. Overall, approximately one third of all households enumerated in the South owned at least one slave in 1840. The average log value of slave wealth fluctuated across states, but the distribution looks broadly similar, particularly among states which ultimately make it into our sample.

In panel B of table 3, we summarize the measure of log slave wealth that we have matched to our marriage records ( $\hat{w}_{i,j,s}$ ). We do not have marriage record data from Delaware, Maryland, or South Carolina, so these states are omitted from this panel. Average log slave wealth looks similar in both panels. However, because wealth in panel B is computed as an average by surname and state, the distribution of this measure is more compressed. Standard deviations are smaller, maximum values are lower, and the fraction of individuals with slave wealth equal to zero is smaller. This can also be seen in figure 1, which plots the distribution of log slave wealth by surname frequency. Panel A plots the distribution of log slave wealth at the individual level. It is clear that, at the individual household level, the distribution of log slave wealth does not differ dramatically by name frequency. Panel B plots the distribution of mean log slave wealth by name frequency; not surprisingly, the distribution looks very different, with more common names obeying a significantly more compressed distribution than unique names.<sup>9</sup>

Given the difference in the distribution of actual wealth and our measure of wealth, it is worth mentioning some of the properties of our measure of wealth. We are working under the assumption of zero linkage error. So, if we observe person  $i$  with surname  $j$  from state  $s$ , we assume that this person's family is one of the  $K_{j,s}$  households used to compute  $\hat{w}_{i,j,s}$ .<sup>10</sup> However, we do allow for

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<sup>8</sup>We use the Jaro-Winkler algorithm, which is frequently used in the creation of matched samples (Ruggles et al 2010).

<sup>9</sup>We plot the distribution of groom's wealth in panel B of this figure; however, the distribution of bride's wealth looks identical.

<sup>10</sup>We are working on incorporating the possibility of linkage error into our characterization of this wealth measure.

error in the measurement of “true” log wealth ( $w^*$ ), so that measured wealth ( $w$ ) is given by:

$$w = w^* + \epsilon$$

First, notice that our wealth measure is “unbiased” in the sense that it does not differ systematically from  $w_i^*$ :

$$E[w_i^* - \hat{w}_{i,j,k}] = E[w^*|J = j, S = s] - E[w^*|J = j, S = s] = 0$$

We also derive the expected squared deviation of  $w_i^*$  from  $\hat{w}_{i,j,k}$ , which captures the variance of our wealth measure, and is a function of  $K_{j,s}$  and other unknown parameters. Suppose that the variance of  $\epsilon$  is  $\sigma_\epsilon^2$ , and the variance of  $w^*$  for state  $s$  and surname  $j$  is  $\sigma_{j,s}^2$ . Further, suppose that the covariance of  $w_{i,j,s}^*$  and  $w_{k,j,s}^*$  is  $\rho_{j,s}$ , for any  $i, k$ . Then, it can be shown that:

$$E[w_i^* - \hat{w}_{i,j,k}]^2 = \sigma_\epsilon^2 + \frac{K_{j,s} - 1}{K_{j,s}}(\sigma_{j,s}^2 - \rho_{j,s})$$

Intuitively, this is increasing in the variance of the measurement error term, increasing in the dispersion of  $w^*$  within surname-state groups, and decreasing in the covariance of  $w^*$  within surname-state groups. Given that we have no information about these parameters, it is difficult for us to address this empirically. However, notice also that the overall variance of measurement error is increasing in  $K_{j,s}$ . This is because, as  $K_{j,s}$  increases,  $\hat{w}_{i,j,s}$  starts to converge to the median  $w$  (as can be seen in figure 1). So, the expected squared deviation of  $w^*$  from  $\hat{w}_{i,j,s}$  starts to grow. We can address this by overweighting observations with less common names. We do this in our individual level regressions, which we will explain in detail below.

## 5 Empirical Approach

### 5.1 Empirical Approach: Theory

To analyze the impacts of property laws on the marriage market, we follow Choo and Siow (2006), who propose a simple statistic for measuring the systematic gains from a marriage between a man and woman of two types. They define  $\mu_{ij}$  to be the number of marriages between men of type  $i$  and women of type  $j$ ;  $\mu_{i0}$  to be the number of unmarried men of type  $i$ ; and  $\mu_{0j}$  to be the number

of unmarried women of type  $j$ . In addition, they define  $\alpha_{ij}$  to be the systematic gross return to a type  $i$  man from marrying a type  $j$  woman, relative to being unmarried; similarly,  $\gamma_{ij}$  is defined as the systematic gross return to a type  $j$  woman from marrying a type  $i$  man, relative to being unmarried. They show that, under conventional distributional assumptions about idiosyncratic returns to marriage, the following holds:

$$\ln \left( \frac{\mu_{ij}}{\sqrt{\mu_{i0}\mu_{0j}}} \right) = \frac{\alpha_{ij} + \gamma_{ij}}{2}$$

So, the systematic gains to a marriage between a man of type  $i$  and a woman of type  $j$  can be measured with information on the number of matches between these two types and the number of individuals of these types who remain unmarried.

We propose a variant of this statistic, which is motivated by the nature of our data. In particular, we cannot observe  $\mu_{i0}$  or  $\mu_{0j}$ ; we can only observe marriages that actually occur in a particular state and year. This does not allow us to measure the value of type  $i, j$  marriages. However, it does allow us to compute the *relative* value of marriages of different types, which allows us to characterize the effect of married women's property laws on assortative matching.

We will consider "types" to be defined by premarital wealth, and we will index men and women in descending order of wealth. So,  $i < j$  means that  $w_i > w_j$ . Consider four "types:"  $i, k, j,$  and  $l$ . There will be four sub-marriage markets consisting of men of types  $i$  and  $k$  and women of types  $j$  and  $l$ . Suppose that  $i < k$  and  $j < l$ . We can say there is a tendency towards assortative matching in this sub-marriage market if matches between  $(i, j)$  and  $(k, l)$  systematically yield more value than matches between  $(i, l)$  and  $(k, j)$ . Or, if marriages among like types systematically more valuable than marriages among unlike types. With this in mind, we define the following:

$$\Omega_{ijkl} = \frac{\mu_{ij}\mu_{kl}}{\mu_{il}\mu_{kj}}$$

Then,  $\omega_{ijkl} \equiv \ln \Omega_{ijkl}$  will be equal to:

$$\omega_{ijkl} = \frac{1}{2} \left( (\alpha_{ij} + \alpha_{kl} - \alpha_{il} - \alpha_{kj}) + (\gamma_{ij} + \gamma_{kl} - \gamma_{il} - \gamma_{kj}) \right)$$

Notice that all  $\mu_{i0}$  and  $\mu_{0j}$  terms are differenced out, so we can compute this statistic with the

data we have available. The policy change will tend to decrease assortative matching in this sub-marriage market when it reduces  $\omega_{ijkl}$ . This is likely to happen if the policy makes spousal wealth less “complementary;” or, if the policy lowers the marginal value a person derives from a spouse’s wealth, and if this is more pronounced for wealthier people.

## 5.2 Empirical Approach: Details

We estimate the average impact of married women’s property acts on  $\omega$ , as defined above. To accomplish this, we split our marriage records into state-year “marriage markets.” So, all marriages occurring in, say, Alabama in 1840 are from the same marriage market. We then divide each marriage market into “bins” based on the husband’s and wife’s premarital wealth: we assign men and women to one of 16 wealth quantiles, which differ by state to reflect to fact that different states had different wealth distributions.<sup>11</sup> So, for each marriage market, we define a  $16 \times 16$  matrix, where men’s wealth quantiles are rows and women’s wealth quantiles are columns. Entry  $(i, j)$  is the number of marriages between men in wealth quantile  $i$  and women in wealth quantile  $j$ .

Each observation is a group of four sub-marriage markets, consisting of men of two types ( $i$  and  $k$ ) and women of two types ( $j$  and  $l$ ). An example of one observation is illustrated in figure 2 ( $i = 5, k = 11, j = 6, l = 12$ ). In each marriage market, there are 120 possible combinations of  $i$  and  $k$ , and 120 possible combinations of  $j$  and  $l$ , which means that there are  $120 \times 120 = 14,400$  observations per marriage market. With 12 years and 9 states, we have 108 marriage markets in total, which means that we have 1,555,200 observations in total.

We estimate the following:

$$\omega_{ijkl,s,t} = \alpha + \beta LAW_{s,t} + \delta_t + \chi_s + \sigma_{st} + \phi_i + \phi_j + \phi_k + \phi_l + u_{ijkl,s,t}$$

This estimates an average effect of a property law on the systematic value of assortative versus non-assortative matches in all sub-marriage markets. Notice that, because each observation is a combination of four sub-marriage markets, very small and very large marriage markets will receive equal weight. This is not ideal: to deal with this, we weight regressions by the total number of marriages associated with each observation. We cluster by four variables: state-year-bin  $i$ , state-

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<sup>11</sup>We choose 16 because this is the largest number of quantiles we can define before we start getting many  $(i, j)$  combinations with zero entries.

year-bin  $j$ , state-year-bin  $k$ , state-year-bin  $l$ . We estimate this using sub-marriage markets that cover the entire wealth distribution, and using marriage markets that cover only portions of the wealth distribution.

## 6 Results

Before estimating the model described in section (5), we explore whether, on average, the difference between husbands’ and wives’ wealth changed after the passage of a married women’s property act. In figure 3, we illustrate this graphically. We include a scatter plot with the mean difference between groom’s and bride’s premarital wealth on the vertical axis, and the date of marriage on the horizontal axis. Here, we are using residuals from a regression of  $(\hat{w}_M - \hat{w}_F)_{s,t}$  on state and year of marriage fixed effects. It looks as though this gap “spreads out” after the passage of a property law.

To test whether this is significant or not, we estimate the following at the individual:

$$(\hat{w}_M - \hat{w}_F)_{s,t} = \alpha + \beta LAW_{s,t} + \delta_t + \chi_s + \sigma_s t + u_{s,t}$$

We do this using the signed difference between husband’s and wife’s log wealth on the left hand side, and using the absolute difference. The fact that different states passed laws in different years allows to control for state and year differences in marriage market outcomes; we can also include a state-specific linear time trend. Overall, we don’t find evidence of a systematic change in the gap between spouses’ premarital wealth after the passage of a property law. To address the concerns about measurement error discussed in section (4), we try overweighting couples with uncommon names in a way that roughly captures the relationship between measurement error and name frequency. Specifically, we compute the following weight for men from state  $s$  with surname  $j$  and women from state  $t$  with surname  $k$ :

$$\lambda_{js,kt} = \left(1 + \frac{K_{j,s} - 1}{K_{j,s}}\right)^{-1/2} \left(1 + \frac{K_{k,t} - 1}{K_{k,t}}\right)^{-1/2}$$

This is an attempt at weighting by the inverse of the geometric mean of the variance of measurement error associated with the husband’s and wife’s wealth. Our weighted results suggest that the error

inherent in our measure of premarital wealth attenuates our estimates slightly, but this is not terribly severe.

The absence of an overall change in assortative matching masks large differences in the effect of the law in different portions of the wealth distribution. We are able to capture this with the model described in section (5). We estimate our model for the entire distribution of bride’s and groom’s wealth; we also do this for sub-sections of these distributions, which are illustrated graphically in figure 4. Again, we find no evidence of an overall change in assortative matching, but we do find significant changes in particular segments of the distribution. In general, there seems to have been an increase in assortative matching among pairs in which the man is richer than the woman; however, there seems to have been a decline in assortative matching among pairs in which the woman is richer than the man. We suggest an interpretation for these findings below.

## 7 Interpretation

Our results suggest that the passage of a married women’s property law had a heterogeneous effect on the systematic gains from “assortative” relative to “non-assortative” matches. Among sub-marriage markets in which the wife is richer than the husband, the passage of a property law reduced the relative gains from assortative matching. However, property laws had the opposite effect in sub-marriage markets in which the husband is richer than the wife. To account for these patterns, we will discuss exactly how these laws affected the use of property within marriage, and we will speculate about how this may rationalize our different findings in different portions of the wealth distribution. (A more formal analysis is forthcoming.)

First, married women’s property laws affected a family’s interaction with the credit market. These laws protected a wife’s property from being seized by creditors. This offered downside protection in event of default; however, it limited access to credit, as a wife’s property could not be used as collateral. In a separate paper, Koudijs and Salisbury (2015) show that the enactment of a married women’s property act increased borrowing and investment in couples where the husband owned the bulk of the family’s assets; however, it decreased borrowing and investment when the wife owned the bulk of the family’s assets. The interpretation is that, when wives own a larger share of family assets, credit constraints become severe, and borrowing falls; however, when husbands own



a larger share of family assets, credit constraints are milder, and households are encouraged to take on larger loans because of the downside protection offered by the property law. So, husbands' and wives' assets become more “complementary” when husbands own a larger share of family assets. This can likely explain the increase in assortative matching in this region of the marriage market.

Secondly, married women's property laws prohibited families from consuming the wife's assets; however, this would only have been binding if the wife held a large enough share of family assets. This will tend to make men value women's wealth less at the margin, since they are constrained after the law in how they can allocate this wealth. Using our notation from above, this should tend to lower  $\alpha_{ij} - \alpha_{il}$ , which tends to reduce  $\omega_{ijkl}$ ; however, it also tends to lower  $\alpha_{kj} - \alpha_{kl}$ , which tends to increase  $\omega_{ijkl}$ . If women systematically prefer to allocate more to investment or than men, it will also affect the way in which women value men's property. After the passage of a law, a larger fraction of the marginal dollar of men's wealth will be allocated to consumption; thus, if women would prefer to allocate more to investment, this will lower the marginal value of men's wealth. As above, this will tend to lower  $\omega_{ijkl}$  if the decline in  $\gamma_{ij} - \gamma_{kj}$  outweighs the corresponding increase in  $\gamma_{il} - \gamma_{kl}$ .

There are several reasons to believe that women prefer to allocate more to investment or precautionary savings than men. First, women had poorer labor market alternatives outside of marriage than men: should a woman outlive her husband, or should the husband turn out to be “intemperate or improvident”, it would have been more difficult for her to supplement her savings with labor income. This would also be consistent with empirical work in economic development, which tends to find that women allocate more resources to their children than men (see Duflo 2003 for an example). If fathers influence marriage market outcomes, this further supports our assumption: fathers are likely to value their grandchildren's consumption over the consumption of their sons-in-law.

Transfers to daughters may be another channel through which married women's property laws affected marriage market outcomes. If parents and sons-in-law disagree over the appropriate allocation between consumption and investment, this may influence the size of transfer from parents to married daughters.<sup>12</sup> In particular, parents may be willing to transfer more to their daughters if their daughters marry richer men: the richer sons in law will consume a smaller fraction of the

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<sup>12</sup>See Botticini and Siow (2003) for an analysis of parents' decisions to transfer wealth to daughters through dowry versus bequest.

transfer, assuming that sons prefer to allocate a relatively fixed fraction of total assets to consumption and investment. After the passage of a law, parents do not need to make transfers to daughters contingent on the wealth of their sons in law, since these transfers are protected. This tends to make men’s and women’s wealth less “complementary”, but only in the portion of the marriage market where the law would be binding, i.e. when women are rich relative to men. This may explain the decrease in assortative matching in this portion of the marriage market.

## 8 Conclusion

This paper offers evidence that pooling property is an important motive for marriage by analyzing the impact of married women’s property laws on marriage decisions. We focus on laws passed in the American South during the 1840s, which re-directed wives’ property toward saving and investment – and limited husbands’ ability to borrow against their wives’ property – without altering their bargaining position within the household. As such, they altered the way in which married couples could pool property and access the credit market without affecting the productivity of marriage matches. Using a newly compiled database of linked marriage and census records, we show that these laws had a heterogeneous effect on the marriage market in different areas of the wealth distribution. Richer men increasingly preferred richer women. As their wife’s wealth gave them downside protection, and their own wealth provided the necessary collateral, these households could use credit markets to lever up their investment. For richer women spousal wealth became less complementary. Before the law change, women (and their family) were concerned about men consuming all their property and men’s wealth was a (partial) guarantee against this. After the law change these concerns were far less pressing and richer women could afford to put less weight on men’s wealth.

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# Table and Figures

Figure 1: Distribution of Individual and Grouped Slave Wealth Measure

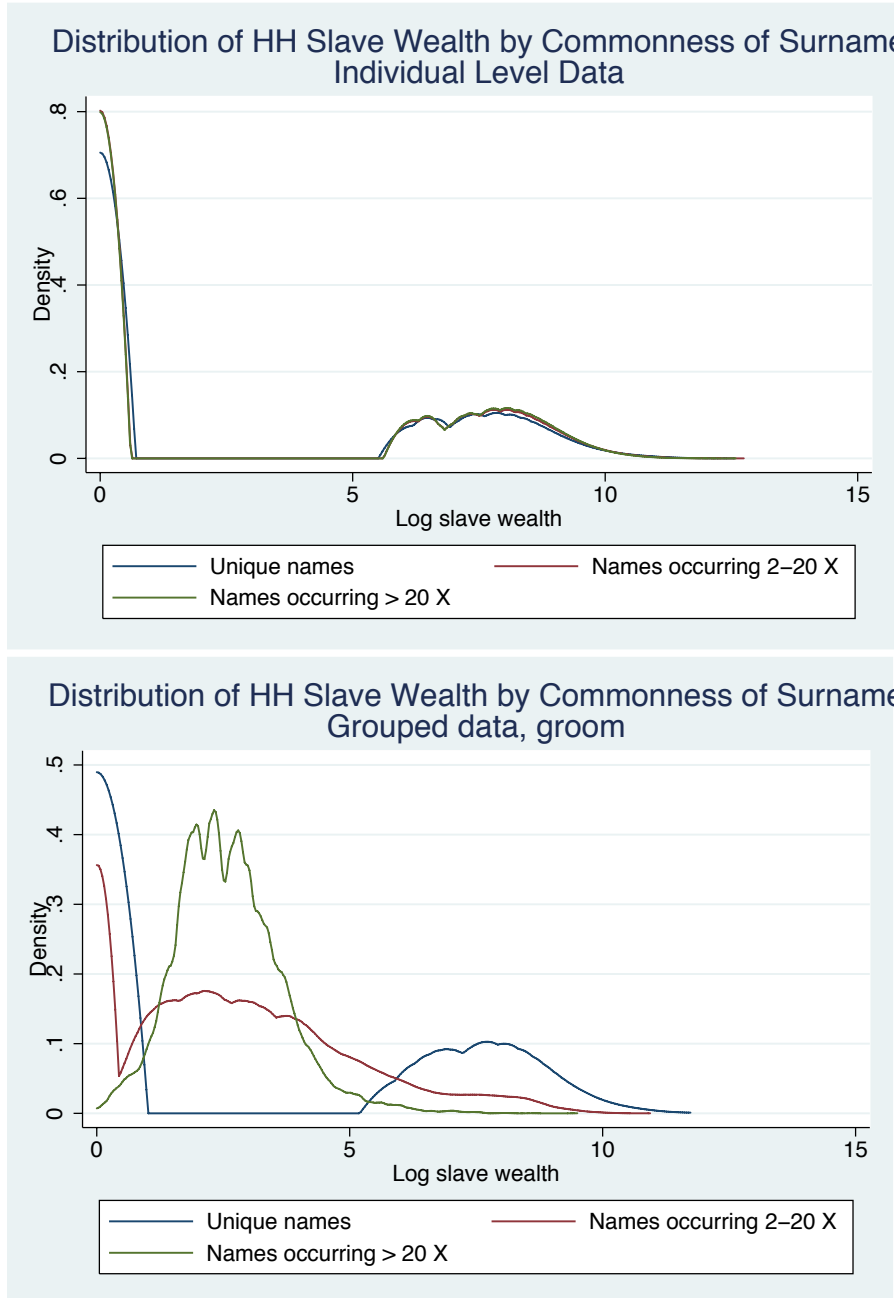


Figure 2: Assortative Matching Data: Illustration

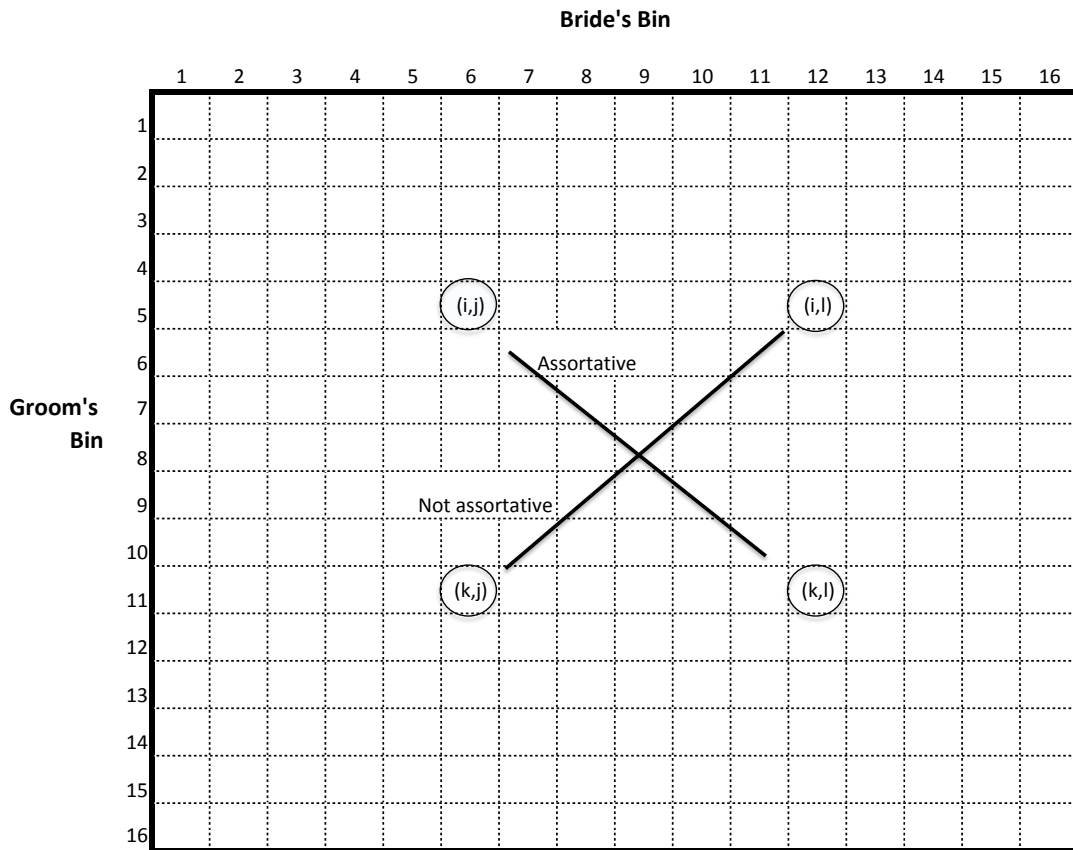


Figure 3: Pattern of Spousal Wealth Gap Before and After Legal Change

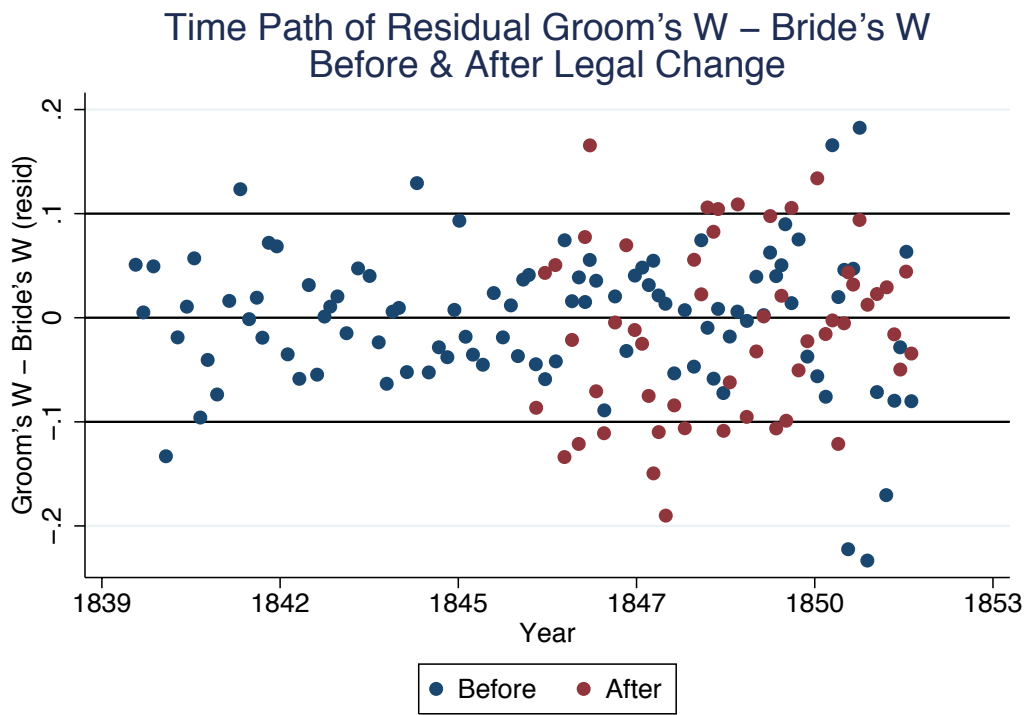
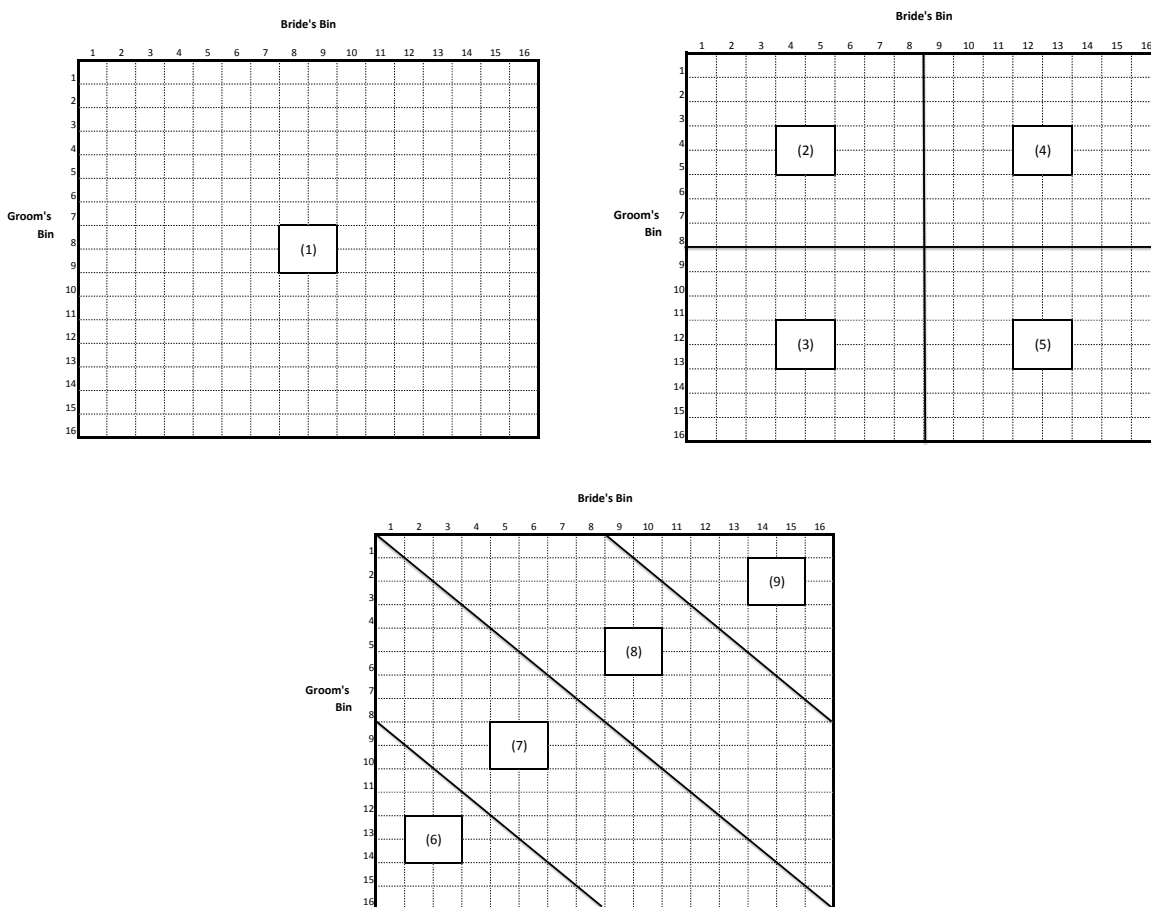




Figure 4: Assortative Matching Results: Area Definitions



Note: Numbered regions correspond to regions of marriage market analyzed in each column of table (5).

Table 1: Dates of Key Married Women’s Property Legislation in the 1840’s

State	Date Main Law Change	Protection Wife’s Assets	Ability to Sell Wife’s Assets
Alabama	Mar 1, 1848	All property owned at time of marriage, or acquired afterwards	Wife cannot sell
Arkansas	–		
Florida	Mar 6, 1845	All property owned at time of marriage, or acquired afterwards	Husband and wife can jointly sell real estate
Georgia	–		
Kentucky	Feb 23, 1846	Real estate and slaves owned at time of marriage, or acquired afterwards	Husband and wife can jointly sell real estate
Louisiana	–		
Mississippi	Feb 28, 1846	Real estate owned at time of marriage and all other property required for the maintenance of the plantation (incl. slaves)	Husband and wife can jointly sell real estate; wife can sell individually if required for maintenance
North Carolina	Jan 29, 1849	Husband’s interest in the wife’s real estate (i.e. profits or rents) not liable for his debts	Wife’s real estate cannot be sold by husband without her written consent
Tennessee	Jan 10, 1850	Husband’s interest in the wife’s real estate (i.e. profits or rents) not liable for his debts	Husband cannot sell his interest is his wife’s real estate
Texas	–		
Virginia	–		

Notes: We omit Maryland and South Carolina from this Table as we do not have a sufficient number of marriage records to include these states in our analysis. Due to their French and Spanish heritage, Louisiana and Texas had community property systems in place that, by default, allowed men and women to have separate estates. Sources: Kahn (1996), Geddes and Lueck (2002), Warbasse (1987), Kelly (1882), Wells (1878), Chused (1983) and Salmon (1982).

Table 2: Coverage of Marriage Record Data

State	# Marriage records	% Counties with marriage record data	% Population living in counties with marriage record data
Alabama	27,934	0.67	0.75
Arkansas	7,186	0.49	0.56
Georgia	32,756	0.74	0.78
Kentucky	50,507	0.64	0.71
Louisiana	5,277	0.19	0.37
Mississippi	12,838	0.47	0.65
North Carolina	27,564	0.73	0.76
Tennessee	95,371	0.65	0.72
Virginia	31,292	0.48	0.54

Table 3: Summary Statistics: Log Slave Wealth in 1840

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*Panel A. Household data from 1840 Census*

State	Mean	Standard deviation	Maximum	% W=0	# Households
South	2.71	3.75	12.74	0.65	738,527
Alabama	3.15	3.95	12.08	0.60	56,079
Arkansas	1.64	3.15	11.31	0.78	12,696
Delaware	0.60	1.97	9.58	0.91	10,369
Georgia	3.15	3.91	12.57	0.60	69,592
Kentucky	2.40	3.54	11.16	0.68	100,346
Louisiana	3.54	3.99	12.21	0.55	29,930
Maryland	1.97	3.33	11.63	0.74	57,831
Mississippi	3.98	4.08	12.34	0.50	30,948
North Carolina	2.56	3.69	12.74	0.67	87,491
South Carolina	3.81	4.09	12.59	0.53	46,655
Tennessee	1.92	3.33	11.99	0.75	106,554
Virginia	2.99	3.84	12.71	0.62	130,036

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*Panel B. Data from Marriage Records*

State	Mean	Standard deviation	Maximum	% W=0	# Marriage recs	% Marriage recs linked to 1840
South	2.62	1.90	11.74	0.14	264,568	0.79
Alabama	3.22	2.00	11.41	0.12	25,216	0.80
Arkansas	1.77	2.06	10.22	0.34	5,537	0.58
Georgia	3.21	1.87	11.34	0.09	30,649	0.86
Kentucky	2.47	1.71	10.31	0.14	45,339	0.81
Louisiana	3.35	2.57	10.91	0.22	3,699	0.48
Mississippi	4.10	2.24	11.55	0.10	11,328	0.77
North Carolina	2.59	1.82	11.74	0.13	25,941	0.85
Tennessee	1.98	1.57	10.95	0.16	87,342	0.84
Virginia	3.17	1.97	11.46	0.10	29,517	0.88

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Table 4: Effect of Married Women's Property Laws on Difference between Pre-Marital Wealth of Spouses

Dependent Variable:	(1) Log Groom's 1840 W - Log Bride's 1840 W	(2) Log Groom's 1840 W - Log Bride's 1840 W	(3)  Log Groom's 1840 W - Log Bride's 1840 W	(4)  Log Groom's 1840 W - Log Bride's 1840 W
Married after property law	-0.0207 (0.0240)	-0.0249 (0.0254)	-0.0140 (0.0162)	-0.0175 (0.0161)
State FE's, year FE's, State-specific time trend	X	X	X	X
Name frequency FE's, binned		X		X
Weighted		X		X
Observations	233,026	233,026	233,026	233,026
R-squared	0.000	0.001	0.019	0.144

Table 5: Effect of Married Women's Property Laws on Value of Assortative Matching

Dependent Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
				Systematic value of "assortative" vs "non-assortative" matches					
Married after property law	0.005 (0.006)	0.003 (0.022)	-0.047** (0.023)	0.045** (0.022)	0.016 (0.012)	-0.038 (0.024)	-0.102*** (0.028)	0.016 (0.029)	0.067** (0.028)
Observations	1,555,200	84,672	84,672	84,672	84,672	22,680	23,220	23,220	22,680
R-squared	0.024	0.018	0.004	0.005	0.021	0.007	0.007	0.005	0.008
Analysis Region	All	Groom > median, Bride > median	Groom < median, Bride > median	Groom > median, Bride < median	Groom < median, Bride < median	Groom < < Bride	Groom < Bride	Groom > Bride	Groom >> Bride