Limited Liability and Investment: Evidence from Changes in Marital Property Laws in the U.S. South, 1840-1850*

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Abstract

We study the impact of marital property legislation passed in the U.S. South in the 1840s on household investment. These laws protected the assets of newly married women from creditors in a world of virtually unlimited liability. We compare couples married after the passage of a law with couples from the same state who were married before. Consistent with a simple investment model that trades off agency costs against risk sharing, we find that the effect on household investment was heterogeneous: if most household assets came from the husband (wife), the law led to an increase (decrease) in investment.

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1 Introduction

Most developed nations have laws limiting personal liability. If an individual is unable to repay his debts, he can file for personal bankruptcy and obtain at least a partial discharge of unsecured debts, while being allowed to keep certain assets. How does such a legal regime affect individual investment? In theory, limited liability has both costs and benefits. On the one the hand, it creates incentives for borrowers to shirk, engage in risk shifting or simply walk away from a project. These agency costs might reduce access to credit and make it harder for individuals to invest in profitable projects. On the other hand, if debt contracts are incomplete, it allows for risk sharing between lenders and borrowers. This may stimulate investment in risky projects, especially if lenders are better able to bear risks than borrowers. In other words, when considering the impact of limited liability on investment, there appears to be a trade-off between agency costs and risk sharing.

This paper studies whether this trade-off is empirically relevant. It also tries to understand under what conditions limited liability leads to an increase or decrease in investment. The starting point is a simple model of investment under moral hazard. A risk averse individual can invest in a profitable project and can borrow from risk neutral lenders using simple debt contracts. These contracts cannot be perfectly enforced; borrowers can always strategically default and divert some of the project’s returns. This generates a collateral constraint and the amount of collateral that can be pledged is determined by the liability regime. The model’s key insight is that the net impact of limited liability on investment depends critically on the share of assets that are protected. If the level of protection is too high, the tightening of the collateral constraint has a first order impact and investment falls. For moderate levels of protection, this effect is only second order. Improved risk sharing dominates and, relative to a case without protection, investment goes up.

It is not straightforward to test this model. One needs variation in the degree of protection that is sufficiently large to show both the possible negative impact of tighter credit constraints and the possible positive impact of increased risk sharing. Ideally, one would need a setting in which otherwise similar individuals are presented with substantially different degrees of limited liability, including full liability. Such a setting is difficult to find. There are large cross-country differences in the amount of debtors’ protection, but these may reflect deeper economic, cultural, or institutional differences. Within the U.S., there is variation in state homestead exemption limits, which generates differences in bankruptcy protection across states (studied in the seminal work by Gropp, Scholz and White [1997]). However, arguably the most important part of the bankruptcy
code – the possibility to get unsecured debts discharged – is the same for everyone.

In this paper, we study a unique historical setting in which far-reaching debtor protection was introduced in an environment with virtually unlimited liability. In our setting, the amount of debtor protection differed greatly across households, allowing us to measure the net impact of different degrees of limited liability. In particular, we study the introduction of the first class of Married Women’s Property Acts (MWPAs henceforth) in the U.S. South during the 1840s. During this period, American common law held that married women had no economic independence from their husbands and were not allowed to own property. These early MWPAs changed the law in a limited way. They protected married women’s property from seizure by the family’s creditors but otherwise preserved the husband’s economic primacy in the household. As such, historians broadly agree that they were intended as debtor protection and nothing more (Chused [1983]; Warbasse [1987]; Kahn [1996]; Priest [2006]). These laws were passed after the Panic of 1837 led to a spike in insolvencies in the South (Roberts [2012]). At the time, there was very little debtor protection in the region: there was no bankruptcy procedure that could lead to a discharge of debts. In response to the economic distress of the 1840s, many state legislatures passed MWPAs, shielding women’s assets (usually acquired in the form of marriage settlements or inheritance) from her husband’s creditors. These laws offered families downside protection: if a husband became insolvent, a family could fall back on the wife’s assets for shelter, food, school tuition fees and other necessaries. At the same time, creditors could seize fewer assets, which may have limited access to credit. Since the laws only sheltered the assets of the wife, the actual amount of protection differed across households depending on the wife’s share of total family property.

These early Southern MWPAs should not be confused with other married women’s property laws passed in the rest of the U.S. from the late-1840s onwards, which gave married women more economic independence (Geddes and Lueck [2002], Doepke and Tertilt [2009]). The laws passed in the South merely shielded married women’s separate property from seizure by creditors; it did not grant them autonomy over this property. In legal terms, the early Southern laws kept the doctrine of coverture in place. This makes them comparable to a system of debtor protection. Under the new laws, married women were still not allowed to write contracts, so their separate estates could not be used to guarantee loans. As such, they effectively removed married women’s property from any interaction with credit markets.

We study the impact of the Southern MWPAs on household investment, in particular in real estate and slaves, as reported in the 1850 census. The passage of the acts provide a unique source
of exogenous variation in the amount of debtor protection enjoyed by households. Crucially, law changes only applied to newlyweds: a retroactive application would have been unconstitutional, as it would have violated the terms of existing marriage contracts (Kelly [1882]). We can therefore compare couples in the same state, in the same census year, who were married before and after the enactment of a law; only those married after were affected. As states introduced laws at different points in time, we can also control for the year of marriage, making sure that the time since marriage (and age effects more generally) are not driving the results. Importantly, we can explore heterogeneity in the effect of the laws on households. Couples in which the wife was relatively rich compared to the husband were faced with a much higher level of protection than couples in which the wife was relatively poor. Variation in the fraction of a household’s assets brought in by the wife allows us to implement what is essentially a differences-in-differences-in-differences design. In addition, because the laws only applied to couples married after the date of enactment (a relatively small group of people), general equilibrium effects are unlikely to be first order in the short term, allowing for a straightforward partial equilibrium interpretation of results.

The starting point for our analysis is a simple model of household borrowing and risky investment. Following the literature on financial contracting, we model a household’s borrowing decision as a moral hazard problem. We assume that if a project is successful, the household can strategically default and divert some of the returns. To enable lending, the loan contract has to be set up in such a way that the household never has an incentive to do this. This generates an endogenous collateral constraint: there has to be sufficient skin-in-the-game to warrant a certain loan size. Crucially, following the literature on bankruptcy protection (see White [2011] and Livshits [2014] for overviews), we assume that the only financial instrument available is a simple debt contract. This is a reasonable assumption in the context of the U.S. South in the 1840s. Appendix A provides a detailed analysis of credit markets in the Antebellum U.S. South. There is no evidence for rich credit arrangements that allowed for risk sharing. Simple debt seems to have been the norm. If households are risk averse, this market incompleteness can create inefficiencies. On the one hand (as is standard in these class of models) simple debt relaxes the collateral constraint. On the other hand, it removes any possibility of risk sharing (Holmström 1979).

We show that the introduction of a MWPA can move the household’s investment decision closer to what it would be if contracts were not limited to simple debt. By protecting the wife’s assets, the household will optimally decide to increase borrowing to scale up investment. This is consistent
with the insights of Dubey, Geanakoplos and Shubik (2005), Zame (1993) and Rampini (2005), who argue that limited liability can make markets more complete. We show that this will only happen if a wife’s property accounts for a relatively small fraction of the total. If a wife’s share of total assets is high, the collateral constraint becomes so restrictive that investment will fall after an enactment of a MWPA.

To test these predictions, we compile a new database that links records of marriages contracted in southern states between 1840 and 1850 to the censuses of 1840 and 1850. Though we do not observe credit, this database does allow us to observe the gross value of real estate and slave holdings at the household level in 1850. We can compare this measure of family assets for couples in 1850 who were married before and after a married women’s property law. Links to the 1840 census allow us to construct a measure of premarital familial assets: average slave wealth among people with a certain surname from a certain state. This measure captures how wealthy grooms’ and brides’ families were at the time of marriage, which approximates the quantity of assets husband and wife brought into a union.

Using our quasi differences-in-differences-in-differences approach, we find strong support for our simple model. Married women’s property laws had a heterogeneous effect on 1850 real estate and slave holdings: they increased investment when the bulk of a couple’s property was owned by the husband; however, they had the inverse effect when most of a couple’s property was owned by the wife. These results are important for two reasons. First, they indicate that models focusing on borrower moral hazard are empirically relevant. Second, they confirm that limited liability in incomplete markets leads to more risk sharing and can increase household investment. We estimate that the optimal amount of protection lies around 25%. If the fraction of protected assets is too large – according to our estimates, more than 45% – the beneficial impact of protection disappears.

This paper is directly related to the literature on the consequences of bankruptcy protection on household borrowing and investment decisions. There is a large literature in macroeconomics that analyzes the trade-off between risk sharing and access to credit using structural models (see, for example, Athreya [2002], Livshits, MacGee and Tertilt [2007], and Chatterjee et al [2007]). In these papers, households use credit markets primarily to smooth consumption and changes in debtor relief only affect investment indirectly (Li and Sarte [2006]). Closer to our paper, there is an extensive micro-econometric literature on the topic using cross-state variation in exemptions. Conclusions about whether higher exemptions increase or decrease credit and investment differ across studies.
Gropp, Scholz and White (1997), the seminal paper in this literature, find that larger homestead exemptions tend to redirect credit to individuals with high assets to begin with. On the other hand, Severino and Brown (2016) look at a recent wave in changes in exemptions and show that higher exemptions are associated with an increase in unsecured debt that is mainly driven by low-income households. The reasons for these different results are not well understood. Berkowitz and White (2004), Berger, Cerquiero and Penas (2011) and Cerquiero and Penas (2011) focus on small-business owners and show that higher exemptions lead to less credit. Fan and White (2003) find that the probability of starting a small business does go up. Cerqueiro et al (2014) document that higher exemptions are related to less innovative activity, emphasizing the importance of external financing for innovation.

Relative to this literature we make the following contributions. First, we study a change in the personal liability regime that enables us to compare households who face large differences in debtor protection. Second, since the new marriage laws only applied to newlyweds, we can base our estimates on couples living in the same state who got married before and after the law change. This means that our results do not rely on state-level variation that might reflect deeper underlying economic differences (Hynes, Malani and Posner [2004]). Third, in our setting the eventual amount of protection varies across individuals depending on the relative wealth of husband and wife. This contrasts with the literature using (homestead) exemptions. Since the property debtors get to keep in bankruptcy is defined in absolute dollar terms, within-state variation in the fraction of assets protected comes from differences in total wealth. This is likely correlated with other factors, such as access to investment projects or credit worthiness. Finally, again due to their prospective nature, the new marriage laws only affected a small fraction of households, suggesting that general equilibrium effects are not of first order importance in our setting. This enables us to interpret the results in a straightforward partial equilibrium way. In contrast, Lilienfeld-Toal, Mookherjee, and Visaria (2012) argue that higher exemption levels might change the credit market equilibrium in a state, redirecting credit to the most reliable borrowers, and that this could explain Gropp et al’s finding that richer households benefit more from higher exemptions.

There is also a large literature in financial economics on the relation between creditor rights and access to capital (La Porta et al. 1998). For example, Vig (2013) evaluates a legal change in India that strengthened the rights of secured creditors. He finds that this reduced the take-up of secured debt. This is consistent with our finding that too little debtor protection depresses borrowing, although the mechanism Vig has in mind is somewhat different. Mann (2016) explores the use of
patents as collateral and shows that stronger creditor rights to patents are associated with more firm borrowing and investment. Haselman, Pistor and Vig (2010), in a sample of 12 transition economies, show that if banks have better recourse to collateral, they increase lending.

Finally, this paper is related to a growing literature on credit and household investment in the antebellum South. Bolton and Rosenthal (2001) develop a theoretical model to explain the introduction of (temporary) debt moratoria by American states in the aftermath of the Panic of 1819. Similar to our paper, they argue that when debt contracts are incomplete, such moratoria may improve ex ante efficiency. Gozalez, Marshall and Naidu (2016) show that free whites in Maryland between 1860 and 1863 were more likely to start a new (mercantile) business if they owned slaves. They suggest that slaves served as collateral and improved access to credit. Feigenbaum, Lee and Mezzanotti (2017) show that counties affected by Sherman’s march were slow to recover and they link this to increased financial frictions after the Civil War and the abolishment of slavery. In related work, Bleakley and Ferrie (2013) evaluate the impact of the Georgia 1832 Cherokee land lottery on real estate and slave holdings in the 1850 census. They find that predominantly households in the middle of the wealth distribution benefitted from a random allocation of land. This is consistent with the findings in our paper if one is willing to assume that these households both faced significant collateral constraints and were relatively risk tolerant.

The remainder of this paper is structured as follows. Section 2 provides more historical background. Section 3 introduces a simple model of borrowing and investment. Section 4 describes the dataset underlying our analyses. Section 5 presents the empirical specification and the main results. Section 6 has a detailed exploration of alternative mechanisms that may generate these results. Section 7 concludes.

2 Historical Background

This section provides necessary background information on the historical setting we analyze in the paper. We first discuss the antebellum South’s financial system, emphasizing the importance of credit for the region’s economy. We then discuss the introduction of the Married Women’s Property Acts (MWPAs). This section gives a broad overview of the relevant topics; Appendices A and B provide more detail, including a detailed list of references.

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1 In a related paper, Hazan, Weiss and Zoabi (2017) argue that the passage of the MWPAs led households to hold more moveable property relative to real estate: bequests to daughters in both the form of real and movable property would be protected from irresponsible husbands and be preserved for their grandchildren.
2.1 Credit in the antebellum South

Cooper, Terrill and Childers (2017, p. 206), in their standard textbook on the history of the South, argue that “credit was just as essential as sunshine and rain”. Most free southern households relied on it to run their businesses. They borrowed working capital to plant, grow and market their crops and relied on long term credit to purchase land and slaves. Appendix A, Section 2 provides an overview of other secondary literature arguing for the importance of credit in the antebellum South.

The majority of the free southern population consisted of comparatively small “yeoman” farmers who owned a plot of land and often a few slaves. Banks did not directly lend to them. Instead, yeoman farmers obtained credit from country stores and rich plantation owners. The stores lent the working capital necessary to operate the farm. This allowed farmers to direct their own savings toward capital investment, such as slaves and land. In this form, their net wealth could serve as collateral. This enabled them to purchase more slaves and land on credit, which was often provided by rich local planters.

Local merchants, usually organized as country stores, played an important role in the antebellum economy. They would market the farmers’ crops and provide planting supplies. This gave them access to detailed information about their clients’ creditworthiness and gave them a competitive advantage to act as their banker. In particular, they provided advances on the commercial crops that farmers had in their fields (or were about to plant) and they sold planting supplies on credit; only about 20% of all store sales were in cash. In theory, debt claims were to be settled once a year after harvest, but in practice farmers’ open accounts were often rolled over from year to year. Like commercial banks today, stores actively lent out money and relied on the income made on the interest rate spread. Credit extension could be substantial and country stores were often involved in debt collection (Atherton [1949], McCurry [1995], Byrne [2006], Marler [2013]).

Rich plantation owners were another important source of credit, especially for the purchase of slaves and land. Slaves were often sold on credit. A purchaser typically paid down a third, and the seller required a high net-worth individual, such as a rich planter, to endorse (guarantee) the remaining balance. When this loan came due (usually after one to three years), rich planters often provided the credit to make the payment (Tadman 1987, Martin 2010). Planters also provided farmers with credit to purchase additional land, often land that they themselves had sold (Kilbourne

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2In the 1850 census, around 2/3 of respondents worked in agriculture, mainly cotton. In the 1840 federal census approximately one third of white southern households report owning slaves. In the 1850 census this had dropped to approximately one quarter.
Many planters were borrowers and lenders at the same time, and they would tap into their credit facilities to lend out money to local farmers in their network. The richest planters would lend out their own capital, often through the intermediation of local merchants (Kilbourne [1995], Martin [2010, 2015], David [2011]).

Both country stores and plantation owners were embedded in a complex system of credit intermediation. Country stores obtained credit from the wholesale merchants and manufacturers who supplied their inventory and the commission merchants or “factors” who bought the crops the stores had accumulated (Olegario [2006], Rockman [2011]). Planters obtained credit from their own factors. For their part, the factors, often located in larger commercial towns and cities, had access to a wide ranging credit network spanning the entire Atlantic economy through the intermediation of international merchants and private bankers (Woodman [1968], Killick [1977], Schweikart [1986], Kilbourne [1995], Bodenhorn [1997]). Appendix A has more details.

The South featured a number of large state chartered banks who played an auxiliary role in this credit system. In general, banks would not directly lend to farmers and planters. Instead, they provided credit to factors and private bankers, who in turn made it available to their clients (Green [1972], Schweikart [1987], Ransom and Sutch [2001]). This way, the banks’ credit trickled down to all layers of free society. Bodenhorn (2003, p. 226-7) argues that there was no need for banks to develop extensive branch networks to provide credit directly. They could simply rely on local intermediaries such as country stores and factors who well informed about borrowers’ creditworthiness and whose involvement made loans safer.

The fact that credit was “as essential as sunshine and rain” does not mean that credit markets were frictionless. From the supply side, credit appears to have been constrained. There was a significant risk that planters and farmers would try to evade their obligations to creditors. In particular, cash crops might be sold to a third party, and the farmer and his family could then take the revenues and walk away. As a result, creditors were only willing to provide loans if the borrower had sufficient collateral that could be seized in case of default (Woodman [1968], p. 40-1, 181). Sometimes a creditor’s claim on a particular piece of collateral was formalized with a mortgage, but more often than not credit was simply secured by “the operation of the law” (Kilbourne [1995], p. 73, Martin [2010], p. 828-9, Rockman [2011, p. 28]). All loans were full recourse and as long as a creditor could prove the existence of a loan, he could file suit against a debtor and lay claim on his assets (Priest [2006]). There was always a risk that defaulting debtors would try to walk away with their slaves, often their most valuable form of property. In response, southern states...
had introduced “attachment laws” that gave creditors the right to “attach” (seize) slaves and other movable property if they were afraid a debtor might try to abscond. This additional layer of security made slaves an important form of collateral, especially since they were traded in a liquid market (Jaynes [1986], Kilbourne [1995], Ransom and Sutch [2001], Wright [2006], Gozalez, Marshall and Naidu [2016], Beckert and Rockman [2016], Martin [2016]).

In addition to restrictions on the supply of credit, planters’ and farmers’ demand for credit was constrained due to limited debtor protection. The law was relatively harsh on debtors. In the case of default, creditors could lay claim to virtually all assets, and all future income remained liable for outstanding debts. After financial crises, states sometimes introduced stay laws to protect debtors, but these only provided temporary relief (Coleman [1974], Balleisen [2001], p. 12, 86, Friedman [2005], p. 180, Bolton and Rosenthal [2001]). In some cases, the only escape available for debtors appears to have been moving to another state. Roger Ransom (2005, p. 38) calls this “walk-away” farming; contemporaries spoke of “GTT” (Gone to Texas, Rothman [2016], p. 138). In such cases, borrowers usually lost ownership of any remaining assets to their creditors. It is likely that debtors tried to avoid such scenarios by limiting their indebtedness (McCurry [1995], p. 64). Gavin Wright (1978, p. 66-67) argues that yeoman farmers’ key objective was to keep ownership of their farm and slaves. Excess indebtedness put this at risk (Kunreuther and Wright 1975, 530-1). It is likely that this strategy of “safety first” limited the overall take-up of credit, even if this meant foregoing profitable (but risky) investments.

The Panics of 1837 and 1839 and the subsequent depression exposed the problems associated with limited debtor protection, especially in the South. Indebted planters and farmers defaulted on their loans and lost their property to creditors (Roberts 2012). The Federal government introduced a bankruptcy act in 1841 to deal with the fallout from the Panic, allowing borrowers to discharge the debts that remained after the liquidation of their assets. However, the act was short-lived and was repealed within a year (Coleman [1974], Balleisen [2001]). Many Southern states favored the introduction of more permanent debtor relief to deal with future crises. The complication was that direct debtor relief had to be implemented at the Federal level. It would take until 1898 for the U.S. to introduce a permanent federal bankruptcy code; in the meantime, state governments’ room for action was limited. Most loans were part of long strings of credit transactions that crossed state borders, and individual states had no jurisdiction to regulate such interstate transactions. Furthermore, the contracts clause of the Federal constitution prohibited states to interfere with existing contracts (Coleman 1974, p 32-4).
In lieu of formal debtor protection, a large number of Southern states introduced Married Women’s Property Acts during the 1840s (MWPAs, Priest 2006, p. 456). Unlike later marital property laws that gave married women more economic independence, these initial acts were limited in scope and simply protected a wife’s assets from her husband’s creditors (Thurman [1966], Lebsock [1977, 1984], Speth [1982], Chused [1983], Warbasse [1987], Olegario [2006], p. 107-8). The MWPAs were a form of debtor relief that fell within states’ limited legislative jurisdiction. The acts applied to newly wedded couples only; thus, in line with the constitution’s contracts clause, existing debt contracts were not affected. Furthermore, the exemption of certain forms of property would not directly interfere with interstate contracts. The MWPAs also encountered less opposition in state legislatures than other forms of debtor relief as they emphasized the protection of family life, an important issue at the time (Thurman 1966).

2.2 Women, Property and the Common Law

The property that the MWPAs were meant to protect could be significant. After Independence, U.S. states abolished primogeniture and moved to a system of partible inheritance. They also 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. As a result, women often acquired a significant inheritance. In addition, parents would convey property to their daughters when they got married. During colonial times land was typically bequeathed to sons and slaves to daughters, but by the 1840s this difference seems to have dissipated (Blackmar [2012]).

Before the passing of the MWPAs, marriages were governed by traditional common law. Under this system, the wife’s assets were liable for the husband’s debts. Husband and wife were regarded as one and the same legal person. The husband obtained all legal authority and the wife became a feme covert. Under coverture, the wife lacked the legal capacity to contract. The husband obtained control over all property that the wife owned at marriage or acquired afterwards. The law made a distinction between movable and real property. All movable property vested absolutely in the husband. Creditors could seize it without any restrictions. Regarding the wife’s real property, the husband obtained a “life” or “freehold” estate. This limited his possession to the duration of his life, after which it would pass on to the couple’s children. During this period, the husband could use the property as he saw fit and was entitled to all income it generated. Creditors could not seize the real estate itself, but did have a claim on all the income it generated (Rabkin [1975]).

In theory, couples could sign a prenuptial agreement to protect the wife’s assets from outside
claims. However, such agreements were of limited value. Legal costs were high, and in many places there was significant uncertainty about whether the courts would enforce prenuptial agreements. Because of the presumed legal unity of husband of wife, the common law did not support any contracts between husband and wife, including prenuptial agreements. The couple had to rely on another legal system that existed parallel to common law: equity. This alternative body of law was not codified, it relied on case law only, as was only well established in particular states. It was heavily influenced by British cases and, after Independence, American legal scholars who wanted build a new codified law appear to have actively undermined it. As a result, prenuptial agreements were rare and predominantly used by wealthy couples in states on the Eastern seaboard (Lebsock [1977], Hoff Wilson [1979], Salmon [1982, 1986], Warbasse [1987]).

2.3 The Married Women’s Property Acts

The first wave of MWPAs that were passed in the South in the 1840s protected a wife’s assets from her husband’s creditors but left all other traditional coverture rules in place. In particular, both before and after the passing of the acts, married women lacked the legal capacity to contract; husbands kept full control over their wives’ assets. This meant that married women’s property could not, in any way, be made liable for a loan. The only person in the household who could contract debt was the husband, and the primary goal of the law was to separate the wife’s assets from these debts (Lebsock [1977], Speth [1982], Chused [1983]).

The MWPAs were prospective; only newlyweds were affected by their passage. Marriages closed before the passage of the acts were still governed by traditional common law. The MWPAs were readily accepted in court, but judges interpreted the acts narrowly. They held that marriages were governed by traditional common law, unless a MWPA had explicitly changed something (Thurman [1966], Chused [1983]). Both under common law and the MWPAs, husband and wife could not contract with each other or transfer property. A couple married after an act could still sell the wife’s assets, but the proceeds had to be reinvested “for the wife’s benefit”. Appendix A has more details and references to the relevant case law.

Under the MWPAs passed in the South in the 1840s, husbands retained control of their wife’s property and the income it generated. There is broad consensus in the literature that these acts were primarily a form of debtor protection and were not meant to give women greater economic independence (see, for example, Chused [1983], Warbasse [1987], Kahn [1996], and Priest [2006]). Law changes later and elsewhere in the U.S. would give women economic rights over their property,
but these are outside the scope of this paper. Appendix B provides more details and reproduces the acts in full text. Friedman (2005, p. 148), in his textbook on the history of American Law, writes that

[State legislatures] did not aim at revolution inside the little kingdom of the family. They aimed mainly to keep ordinary families solvent in parlous economic times.

Contemporaries saw it the same way. In 1843, a Georgia proponent of a MWPA argued for the act’s salutary effect on debtors and emphasized that under the new law husbands would retain control over his wife’s property. He concluded: “the truth is, that no man should wish for more than this”.4

Families actively used the MWPAs in economic downturns. For example, after the Civil War, a large number of Southern household defaulted on their debts and many used the MWPAs to retain ownership over some of their property (Thompson [2004], p. 26-7). Creditors were well aware that the MWPAs could affect their claims on debtors. Legal textbooks of the time review the acts in the context of debtor protection. The Mercantile Agency, a credit reporting agency, kept track of property that was in the wife’s name (Holcombe [1848], Byrne [2006], p. 24, 222-3, Olegario [2006], p. 108). In 1852, a notes collection agent reported on a Texas business man: “[he] is said by some to be a rascal; others say he is a very honest man and has considerable property said to own forty [slaves] which some say is not come-at-able as they are in his wife’s name” (Rockman [2011], p. 26).

3 Theory

In this section, we develop a simple model to characterize the way in which MWPAs affect household borrowing and investment. The starting point is the observation that the only financial instruments available to households at the time were simple, non-contingent, debt contracts. In this case, offering downside protection through the exemption of the wife’s property likely has two countervailing effects. First, it may reduce the overall amount of credit and investment because households have less pledgeable collateral after the passage of a law. Second, it may increase overall investment because households are risk averse: the downside protection makes potential insolvency

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3See Kahn (1996), Geddes and Lueck (2002) and Doekpe and Tertilt (2009) for the economic motivation behind giving women more economic independence.

less disastrous and thus could encourage a household to borrow and invest more. Effectively, limited liability helps to make markets more complete (Dubey, Geneakoplos and Shubik [2005], Zame [1993], Rampini [2005]). In what follows, we explore the circumstances under which each of these two effects dominates.

Following the large theoretical literature on (financial) contracting, we model the household investment decision as a moral hazard problem. A risk averse household can invest in a risky project with positive net present value. If the project is successful, the household has the option to divert some of the project’s returns. The project’s outcome is fully verifiable to the outside investor, who can attempt to obtain legal recourse. Diverting cash flows is therefore costly, as the household would, for example, need to abscond to a different state to evade legal action. To prevent this inefficient outcome, the household needs sufficient skin-in-the-game. This endogenously generates a collateral constraint.\(^5\) This is a crucial element of our model as it implies that there will always be households who will face binding constraints on the amount that they can borrow. A model without collateral constraints might generate significantly different results.

We first solve the model assuming that markets are complete, that is borrowers and lenders can write any contract possible. This serves as a useful benchmark to better understand the efficiency implications of the MWPAs. We then solve the model when only simple debt contracts are available. A key result is that investment levels will always be lower compared to the complete contracts case if the household is risk averse. Finally, we introduce a law into the model that protects the wife’s assets from creditors. We show that if the fraction of household assets that belongs to the wife is significant, but sufficiently small, protection will move the household closer to the complete markets solution and investment will increase. All proofs can be found in Appendix C.

3.1 Setup

Husbands and wives enter a marriage with assets \(w_M\) and \(w_F\), respectively. The household allocates total wealth \(w = w_M + w_F\) between consumption today \((c_0)\) and investment, the proceeds of which will be consumed “tomorrow” \((c_1)\). We can think of \(c_1\) as an amalgam of the couple’s future consumption and a bequest to children. The household has log utility over current and future consumption:

\[
U(c_0, c_1) = \log c_0 + \theta E[\log(c_1)]
\]

\(^5\)This simple form of moral hazard greatly simplifies the analysis. The same economic intuition should hold for different moral hazard problems related to effort provision (Innes [1990], Holmström and Tirole [1997]), semi-verifiable income (Townsend [1979]) or non-verifiable income (Hart and Moore [1989] and Bolton and Scharfstein [1990]).
Investment takes the form of a risky project, which yields a return of \( \tilde{R} \in \{R, \bar{R}\} \) with equal probabilities, where \( \tilde{R} > 1 \) is the return if the project succeeds, and \( \frac{1}{2 - \frac{1}{\bar{R}}} < \tilde{R} < 1 \) is the return if the project fails. The lower limit on \( \tilde{R} \) ensures that, in an incomplete markets world without protection, the household will always want to borrow a strictly positive amount to invest in the risky project and does not want to store its wealth in a risk-free asset, such as government bonds.\(^6\)

We define \( r \equiv E(\tilde{R}) = \frac{\tilde{R} + \bar{R}}{2} > 1 \), so the project has a positive expected value. Further, we define \( \Delta r \equiv \bar{R} - R \).

Households can obtain outside financing to scale up investment. We assume that a portion of the project’s return can always be seized by the financier; for simplicity, we assume that this is \( \tilde{R}I \), where \( I \) is the total amount invested in the project. We can think of this as the value of the underlying land, buildings, slaves and tools. These assets are (1) likely to retain a large fraction of their original value, even if the project fails, and (2) are relatively easy to confiscate by the outside investor. This means that, if the project fails, households can be forced to hand over all their remaining assets. If the project succeeds, there will be an additional \( (\bar{R} - R)I = \Delta rI \) on the table that cannot be easily seized and which the household can divert. We can think of this as the cash proceeds of the project. Diversion is costly, and the household will only be able to keep \( \beta \Delta rI \), where \( \frac{2(r-1)}{\Delta r} < \beta < 1 \). In order for an outside financing contract to be incentive compatible, the amount of money households are left with in the event of success must at least be as big as \( \beta \Delta rI \). The lower limit on \( \beta \) ensures that the moral hazard problem is always serious enough that it leads to a cap on outside investment. We assume that financiers are risk neutral and competitive. Furthermore, we normalize the risk-free rate of return to zero.

### 3.2 Complete and Incomplete Markets Without Protection

We first consider the case in which markets are complete, and the household can pick from an unconstrained menu of contracts to obtain outside financing, \( e \). Total investment is given by \( w - c_0 + e \). The incentive compatibility constraint (IC) is given by

\[
\bar{R}(w - c_0 + e) - \rho_g e \geq \beta \Delta r (w - c_0 + e)
\]

\(^6\)Throughout, we make the assumption that, in case of default, risk-free assets, such as government bonds or balances with (merchant) banks, can always be seized by creditors.
while the financier’s zero profit condition implies that

$$\rho_g + \rho_b = 2$$

where $\rho_g$ ($\rho_b$) is the return to the outside investment in the good (bad) state of the world.

**Proposition 1** Suppose that $\frac{2(r-1)}{\Delta r} < \beta < 1$ and $\frac{1}{2-\frac{1}{R}} < R < 1$. Under complete markets, the IC constraint is binding, and households will choose the following values of $c_0$, $e$, $\rho_g$, and total investment $w - c_0 + e$:

$$c_0^* = \frac{w}{1 + \theta}$$

$$e^* = \frac{2r - 1 - \beta \Delta r}{\beta \Delta r - 2(r - 1)} \frac{\theta}{1 + \theta} w$$

$$\rho_g^* = \frac{R - \beta \Delta r}{2r - 1 - \beta \Delta r}$$

$$w - c_0^* + e^* = \frac{1}{\beta \Delta r - 2(r - 1)} \frac{\theta}{1 + \theta} w$$

It is relatively easy to see that if the household is risk neutral, the optimal contract would involve simple risk-free debt. Since the project has positive net present value, it is optimal to loosen the IC constraint as much as possible. This means minimizing the payment the household has to make in the good state of the world. In the bad state of the world it pays as much as it can. Proposition 1 implies that this changes when the household is risk averse. In that case, the optimal contract strikes a balance between incentive compatibility and risk sharing.\(^7\) The household will have a positive payout in the bad state of the world. To satisfy the financier’s zero profit condition, this implies a higher payment in the good state of world.

Next, we solve the model assuming that only simple debt contracts are available. In this case, the household borrows an amount $l$ and the lender charges a fixed interest rate $\rho$. Total investment is given by $w - c_0 + l$. If the household is able to repay the lender in the bad state of the world, the loan is risk-free and $\rho = 1$. If the loan is risky, the household is forced to give up the entire project’s return in the event of failure. The lender’s zero profit condition dictates that

$$\rho l + R(w - c_0 + l) = 2l$$

\(^7\)For other models in which incentive compatibility is traded off against risk sharing see Holmström (1979) and Holmström and Ricart-i-Costa (1986).
The IC constraint is similar to before.

**Proposition 2** Under incomplete markets with no protection, the IC constraint is never binding, and the household will choose the following values of \(c_0\), \(l\), \(\rho\), and total investment \(w - c_0 + \ell\):

\[
\begin{align*}
    c_0^* &= \frac{w}{1 + \theta} \\
    l^* &= \frac{\bar{R}R - r}{(\bar{R} - 1)(1 - \frac{R}{\bar{R}})} \frac{\theta}{1 + \theta} w \\
    \rho^* &= 1 \\
    I^* &= w - c_0^* + l^* = \frac{r - 1}{(\bar{R} - 1)(1 - \frac{R}{\bar{R}})} \frac{\theta}{1 + \theta} w
\end{align*}
\]

The household decides to contract a risk-free loan. It will never want to borrow more than it can repay in the bad state of the world, as the lender can seize the entire return, driving the household down to zero consumption. With a risk-free loan, the IC constraint will never bind. Outside financing and total investment always fall relative to the complete markets case:

**Lemma 3** For a given \(w\), outside investment \(e^*\) and gross investment \((w - c_0^* + e^*)\) under complete contracts are greater than borrowing \(l^*\) and gross investment \((w - c_0^* + \ell^*)\) under incomplete contracts with no debtor protection.

### 3.3 Incomplete Markets With Protection

The introduction of a MWPA can partly remedy the inefficiency caused by contract incompleteness. Under the new law the proceeds from investing \(w_F\) can never be seized by the outside financier. By guaranteeing a minimum level of consumption in the bad state of the world, the household might find it optimal to contract a large risky loan, leading to an increase in investment. At the same time, the protection of a wife’s property can also further amplify the inefficiencies through the tightening of the IC constraint. Which of these two effects dominates depends on the relative proportions of \(w_M\) and \(w_F\) in total household wealth.

Under protection a household contracts a (possibly) risky loan \(l\) and total investment is given by \(w_M + w_F - c_0 + l\). If the loan is indeed risky, the lender’s zero profit condition yields that

\[
\rho l + \bar{R}(w_M - c_0 + l) = 2l
\]
The IC is given by
\[ R(w_M - c_0 + l) - \rho l \geq \beta \Delta r(w - c_0 + l) \]

Note the absence of \( w_F \) in both expressions. In line with the MWPAs (see Section 2.3), we assume that the household can only consume \( w_F \) in \( t = 0 \) after the husband’s assets \( w_M \) have been exhausted.

**Proposition 4** Suppose that \( \frac{2(r-1)}{\Delta r} < \beta < 1 \) and \( \frac{1}{2-1/R} < R < 1 \). There exist \( \phi_1 \) and \( \phi_2 \), where \( \phi_2 > \phi_1 \), such that under incomplete contracts with \( w_F \) protected, the household will choose the following equilibrium values of \( c_0 \) and \( l \), and gross investment \( w_M + w_F - c_0 + l \):

**Case 1.** \( w_M/w_F < \phi_1 \):
\[
\hat{c}_0 = \frac{1}{1+\theta}(w_M + w_F) \\
\hat{l} = 0 \\
\hat{I} = w_M + w_F - \hat{c}_0 + \hat{l} = \frac{\theta}{1+\theta}(w_M + w_F)
\]

**Case 2.** \( \phi_1 \leq w_M/w_F < \phi_2 \):
\[
\hat{c}_0 = \frac{2}{2+\theta} \left\{ \frac{w_M + \frac{R}{2}(2 - 2r + \beta \Delta r)}{2}\right\} w_F \\
\hat{l} = \frac{2r - \beta \Delta r}{2 - 2r + \beta \Delta r}\frac{\theta}{2+\theta}w_M - \frac{R}{2\beta \Delta r}\frac{2}{2+\theta}w_F \\
\hat{I} = w_M + w_F - \hat{c}_0 + \hat{l} = \frac{2}{2 - 2r + \beta \Delta r}\frac{\theta}{2+\theta}w_M + \left\{ 1 - \frac{R}{\beta \Delta r}\frac{2}{2+\theta} \right\} w_F
\]

**Case 3.** \( w_M/w_F \geq \phi_2 \):
\[
\hat{c}_0 = \hat{c}_0^* = \frac{w_M + w_F}{1+\theta} \\
\hat{l} = \hat{l}^* = \frac{\hat{R}}{(R - 1)(1 - R)}\frac{\theta}{1+\theta}(w_M + w_F) \\
\hat{I} = \hat{I}^* = w_M + w_F - \hat{c}_0 + \hat{l} = \frac{r - 1}{(R - 1)(1 - R)}\frac{\theta}{1+\theta}(w_M + w_F)
\]

Under Case 1, the husband’s wealth is limited, and the household would like to consume more than \( w_M \) at \( t = 0 \). As a result, it will never invest any of the husband’s money in the project. If there is no skin-in-the-game, it is impossible to contract a loan of any size. In this case, protection will unambiguously decrease investment. Under Case 3, the wife’s asset holdings
are relatively small, and the household is better off selecting pre-law consumption and investment levels (which are feasible). Case 2 is most interesting. For intermediate values of $w_M/w_F$, the household always picks a risky loan, and the IC constraint will hold with equality. In other words, the household borrows to the limit. The larger $w_M$ is relative to $w_F$, the bigger the loan size and total investment. Above a critical level of $w_M/w_F$, $\phi^*$, investment will (weakly) increase compared to the non-protection case. These results are summarized by Figure 1 and the following two lemmas:

**Lemma 5** Define $I^*$ to be gross investment under incomplete markets with no protection, and $\hat{I}$ to be gross investment under incomplete markets with protection.

a. Define $\epsilon_i^*$ to be the elasticity of $I^*$ with respect to $w_i$, and $\hat{\epsilon}_i$ to be the elasticity of $\hat{I}$ with respect to $w_i$, where $i \in \{M,F\}$. Then, $\hat{\epsilon}_M \geq \epsilon_M^*$, and $\hat{\epsilon}_F \leq \epsilon_F^*$. A corollary is that the elasticity of $\hat{I}$ w.r.t. $w_M/w_F$ is greater than the elasticity of $I^*$ w.r.t. $w_M/w_F$.

b. There exists a $\phi^*$ satisfying $\phi_1 \leq \phi^* < \phi_2$ such that $\hat{I} - I^* < 0$ for all $w_M/w_F < \phi^*$, and $\hat{I} - I^* \geq 0$ for all $w_M/w_F \geq \phi^*$. The latter inequality is strict for $\phi^* < w_M/w_F < \phi_2$.

The intuition is straightforward. If a wife's wealth is relatively large, the household has limited collateral available. The first order impact of a MWPA is to make the IC constraint so tight that the household is forced to borrow less. If the wife's assets only account for a small (but non-trivial) part of the total, the household will benefit from protection. The IC constraint is relatively loose, and the downside protection provided by the wife's wealth is still sufficient to make it optimal to borrow at the constraint. Note that the MWPA can never implement the exact complete markets allocation. Investment will only increase when $w_F$ is relatively small; in that case, consumption in the bad state of the world is lower than it would be under complete contracts. Nevertheless, as long as $w_M/w_F \geq \phi^*$, post-law investment will be (weakly) closer to investment under complete markets. In the empirical section, we will explicitly test for Lemma 5a. and we will provide an estimate for the $\phi^*$ defined under Lemma 5b.

### 4 Data

We link data from four sources: (1) county records of marriages contracted in the South between 1840 and 1850 from familysearch.org; (2) the complete count 1850 federal census from the North Atlantic Population Project; (3) slave schedules from the 1850 federal census from ancestry.com;
4.1 Household assets in the 1850 census

We begin by extracting information from approximately 250,000 marriage records from southern states dated between 1840 and 1850 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. Once we have obtained these marriage records, we match them to the population census and slave schedules of 1850. The 1850 data contain information on place of residence, birth place, birth year, household composition, occupation, literacy, the value of real estate assets and slave holdings. Real estate assets included all land and buildings a household owned, irrespective of its location. No adjustments were made on the account of mortgages or other forms of debt. That is, if a property of $1000 had a mortgage of $500, the census would report the full $1000 value (Ruggles et al 2010).

The measure of household assets in the 1850 census that we use in this paper is the total value of real estate and slave holdings, where we multiply the number of slaves each household owns by the average slave value in 1850 of $377 (Carter et al 2006). Since most households in the South were active in agriculture and slaves were the most valuable form of property, our measure should capture the lionshare of household assets (Wright 2006, p. 59-60). We primarily miss other forms of movable property, including farm equipment, cattle, furniture and financial instruments such as bonds and stocks. We use the published 1860 county level census to evaluate the precision of our measure. In 1860, census enumerators asked households about the value of real estate and all movable property. We calculate slave assets in the same way as we do for 1850. The correlation between slave assets and all movable property is 0.85. The ratio of slave assets to total movable assets lies somewhere between 70 and 85%. The census numbers are self-reported and might misrepresent the actual value of assets. Bleakley and Ferrie (2016, Appendix F) documents that for a representative county in Georgia asset values reported in the census closely correspond to tax records. Table A1 lists the real estate and slave holdings reported in the 1850 census of 16 borrowers for whom Kilbourne (1995) reports the details of a mortgage contract. The table shows that the number of slaves reported in the census correspond closely to the number of slaves pledged in the mortgage contract.

---

8Household level data for 1860 is not available in digitized format.
4.2 Linking marriage records to the 1850 census

Linking marriage records to the census of 1850 is complicated by the fact that we have relatively little information to make these links. The conventional approach to linking census data is to use information on name, sex, race, birth year and birth place. However, our marriage records only give us information on names; this makes it difficult to identify correct matches from a set of potential matches. We choose a methodology that aims to maximize the probability that a link is correct at the expense of a high linkage rate. We begin by identifying married couples residing in the South in 1850. We do this using age, surname and location within the household, which is similar to the approach taken by IPUMS (Ruggles et al 2010); this is necessary because the 1850 census does not explicitly ask about marital status. We then search these couples for potential matches to our marriage records based on husband’s and wife’s first initial and a phonetic surname code.

We then evaluate the similarity between all three name variables in the marriage record and census record using the Jaro-Winkler algorithm (Ruggles et al 2010), and we drop all potential matches that score below a defined threshold. Finally, we keep only unique matches, in which complete first names are given for both the husband and wife in the 1850 census; we discard potential matches if there is an additional possible match in the 1850 census with information on only first initials. For example, “John and Mary Smith” would be discarded if there was another couple named “J and Mary Smith”. This is a very conservative approach, which is meant to maximize accuracy at the expense of sample size. It is also important to note that this approach heavily favors individual with unusual names.

Table E1 contains statistics on our linkage rates, separately by state. We collect marriage records from all southern states (broadly defined) besides Delaware, Maryland, and South Carolina. Delaware has too few marriage records to be worthwhile; Maryland and South Carolina do not have available marriage record data. The fraction of marriage records we are able to link uniquely is 16%, which is on the low side. This appears to be due to the high frequency of multiple matches: approximately 50% of our marriage records can be linked to at least one 1850 census.

---

9See Ferrie (1996), Ruggles et al (2010), and Abramitzky, Boustan and Eriksson (2012) for examples.

10We only search for couples in the South for two reasons. First, only southern states currently have fully digitized census data from 1850. However, we also feel that some residency restriction on our target sample is helpful because of the lack of precise information we have that can be used for matching. Couples married in the South are unlikely to have left the region within less than 10 years. So, this location restriction (or some version of it) will help us distinguish between some of the multiple matches that we obtain when matching on name alone. There is also a well documented tendency for southern born individuals to migrate along an east-west axis within the South, and not to the North (Steckel [1983]).

11We use NYSIIS codes, which are commonly used in record linkage. See Atack and Bateman (1992), Ferrie (1996), and Abramitzky et al (2012) for examples.
record (including those with first initials only) and 40% can be matched to at least one record with full first name entries.

To narrow down information on multiple matches, we use information on the implied age at marriage and discard potential matches with highly improbable ages. We assume that our unique matches are all true, and we compute $Pr(A = a|T)$, which is the probability that a man’s age at marriage is equal to $a$ given that a link is true; we do the same thing for women. Then, for each potential non-unique match, we compute a weight $\pi$, which is equal to the probability that each match is true given the implied age at marriage of the husband and wife using Bayes rule. For a marriage record with $K$ potential matches, we compute $p_k = \frac{\pi_k}{\sum_{l=1}^{K} \pi_l}$, and define a match as “true” if $p_k \geq 0.95$. This raises our overall match rate by almost 5 percentage points, to just over 20%.

The validity of this procedure depends on the accuracy of our unique matches. Table E2 and Figure E1 suggest that these matches are typically accurate. Recall that we are matching marriage records to census records from southern states based on names only; we are not using information about state of marriage to refine these matches. So, if couples who were married in Alabama, for example, are more likely to reside in Alabama in 1850 than a randomly selected southern couple, this suggests that our matches are relatively accurate. Table E2 compares the probability of residing in or being born in the couple’s marriage state with the probability of residing or being born in that state for a randomly selected southern couple in 1850. These probabilities are typically an order of magnitude higher for couples married in state than for all southern couples, suggesting that our matches are typically accurate.

Figure E2 plots the distribution of age at marriage for men and women in our uniquely matched sample. We compute age at marriage by combining information on age in the 1850 census with information on marriage year from our marriage records. Again, recall that we are not using any of this information to create our unique matches. So, if our matches were completely random (i.e. inaccurate), our estimated “age at marriage” would be typically 9 years younger for individuals married in 1840 compared with those married in 1849. In the top two panels of Figure E2, we plot the distribution of age at marriage for men in our uniquely matched sample who were married in 1840 and 1849, and we plot the same distribution for a “placebo” sample of randomly matched data. In our matched data, the distribution of age at marriage looks very similar for men married in 1840 and 1849, suggesting that the matches are relatively accurate. The same picture emerges when we look at age at marriage for women, in the bottom two panels of Figure E2.

12 This is done by randomly selecting couples and then randomly assigning them to be “married” in 1840 or 1849.
Throughout the analysis, we impose that couples be resident in their state of marriage. A series of Mississippi court cases from the 1840s reveal that it was highly uncertain which state's law would apply if a couple got married in a state different from where they lived, often depending on an individual judge's interpretation of the law (1 Miss 480; 9 Miss. 48; 19 Miss 445; 46 Miss 618). Since we cannot infer the exact expectations of these couples regarding their protection status, we drop them from the analysis. In Appendix E (Table E5), we show that all our results are robust to including these couples, assuming that either the law of the state of marriage would apply or the law of the state of residence.

4.3 Socioeconomic status from the 1840 census

The final data source we use is a complete index to the 1840 census. We use this to measure the premarital socioeconomic status of husbands and wives. The underlying assumption of our analysis is that husbands and wives received property from their family around the time of marriage (Appendix B, Section B.1 has more details) and that their family’s socioeconomic status is correlated with these transfers. The only socioeconomic information available in the 1840 census is slave holdings. 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 slave wealth at the household level as the number of enslaved persons residing there, multiplied by the average slave price in 1840, which was $377 (incidentally identical to the 1850 average, Carter et al 2006). Again, slaves were the most valuable form of property in the South and should therefore provide a good measure of people’s socioeconomic status. In our 1850 household level data, slave and real estate wealth have a correlation coefficient of 0.49.

Because we do not have detailed demographic (or even first name) information on household members, it is not possible to link our couples to their precise 1840 households. Instead, we compute a measure of “familial assets” by averaging household slave wealth by state and surname, and we link this to our matched sample by birth state and surname (using women’s maiden names stated in the marriage records). This measure is only available for individuals born in the South. By now, there is a well established literature that uses surnames to infer socioeconomic status in different contexts. In seminal work, Clark (2014) follows this approach to study social mobility in England. Guell, Rodriguez Mora and Telmer (2015) study social mobility in Catalonia in the 2001 census. Bleakley and Ferrie (2016, p. 1470) use surnames to infer socioeconomic status in their study of
Georgia’s Cherokee land lottery in 1832 and argue that “surname averages (...) are statistically
significant predictors of individual-level behavior even controlling for a variety of other covariates”.
We discuss additional properties of this surname based measure of premarital wealth in Appendix
D.

4.4 Final sample

Table 2 contains summary statistics for our matched data. We can match approximately 50,000
couples between marriage records and the 1850 census. Of these, we can determine slave ownership
status using the 1850 slave schedules in 75% of cases. In approximately 88% of cases, both the
husband and wife are southern born. Of these, we are able to obtain an 1840 assets measure for
76%, using the method described above. Thus, approximately 40% of all couples linked from our
marriage records to the 1850 census appear in our core sample.13

Approximately 19% of the couples in our sample are married after the passage of a MWPA. In
Appendix Table E5, we perform a balancing test in which we compare the characteristics summa-
rized in Table 2 of couples married before and after the passage of a MWPA. We do a simple means
comparison, and we regress \(LAW_{s,t}\) on each characteristic as well as state and year of marriage fixed
effects. With the exception of wife’s age at marriage, we do not find that pre-1850 characteristics
predict being married before or after the passage of a law. The difference in wife's age at marriage
is statistically significant but extremely close to zero, amounting to less than one day.

5 Empirical Approach

5.1 Hypotheses and Specifications

Our model generates predictions about the impact of a MWPA on investment and borrowing. The
outcome variable we use to test these predictions is the couple’s 1850 real estate and slave holdings.
This is meant to capture total household assets. In our theoretical model, this is equivalent to
\[I = w_M + w_F - c_0 + l.\] For clarity, consider the following simplified household balance sheet:

<table>
<thead>
<tr>
<th>Assets</th>
<th>Liabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Real Estate</td>
<td>Premarital wealth ((w_M + w_F - c_0))</td>
</tr>
<tr>
<td>Slaves</td>
<td>Loans ((l))</td>
</tr>
<tr>
<td>((w_M + w_F - c_0 + l))</td>
<td></td>
</tr>
</tbody>
</table>

13We show in Appendix E that the main results are robust to relaxing some of these sample restrictions.
Holding premarital wealth \((w_M \text{ and } w_F)\) constant, we interpret more or less household assets as resulting from more or less household borrowing.

Based on our theoretical model (Lemma 5), we pose two hypotheses about the impact of the passage of an MWPA.

1. **The elasticity of total household assets should increase with respect to the husband’s premarital wealth and decrease with respect to the wife’s premarital wealth.**

   A higher (lower) elasticity indicates that the household borrows and invests more (less) against premarital assets. We do not have a direct measure of premarital wealth and approximate it with husband’s and wife’s socioeconomic status, as captured by our measure of 1840 familial slave holdings.

2. **Total household assets should be strictly smaller if the wife accounts for a relatively large share of the couple’s joint premarital wealth and (weakly) higher if the husband accounts for a relatively large share.**

   In the absence of a direct measure of premarital wealth, we take the ratio of a husband’s and wife’s 1840 familial slave holdings as a proxy. The higher (lower) the husband’s socioeconomic status compared to his wife, the larger we expect his share in joint premarital wealth to be.

To test Hypothesis 1, we estimate the following regression

\[
\log(1 + I_{i,j,s,t}) = \alpha_1 \log W_{i,1840} + \alpha_2 \log W_{j,1840} + \beta \text{LAW}_{s,t} + \gamma_1 \log W_{i,1840} \times \text{LAW}_{s,t} + \gamma_2 \log W_{j,1840} \times \text{LAW}_{s,t} + \delta_1 \log W_{i,1840} \times D_s + \delta_2 \log W_{i,1840} \times D_t + \delta_3 \log W_{j,1840} \times D_s + \delta_4 \log W_{j,1840} \times D_t + \zeta_1 X_i + \zeta_2 X_j + \phi_1 D_s + \phi_2 D_t + u_{i,j,s,t}
\]

where \(I_{i,j,s,t}\) is the value of real estate and slaves belonging to husband \(i\) and wife \(j\) (married in year \(t\) and in state \(s\)) reported in the 1850 census. \(W_{i,1840}\) and \(W_{j,1840}\) are husband’s \(i\)’s and wife’s \(j\)’s familial slave holdings in 1840. The variable \(\text{LAW}_{s,t}\) is 1 if a MWPA has been enacted in state \(s\) by year \(t\). The vectors \(X_i\) and \(X_j\) are individual characteristics of husband \(i\) and wife \(j\), including literacy, age fixed effects, and birthplace fixed effects. Vectors \(D_s\) and \(D_t\) contain state and year-of-marriage dummies, respectively.
The coefficients $\alpha_1$ and $\alpha_2$ give the elasticity of households’ 1850 assets with respect to husbands’ and wives’ 1840 familial slave holdings. Coefficient $\beta$ indicates to what degree households married after the passage of a MWPA hold more or less assets. Of key interest are $\gamma_1$ and $\gamma_2$, the coefficients on the interaction terms between $W_{i,1840}$ and $LAW_{s,t}$, and $W_{j,1840}$ and $LAW_{s,t}$. These indicate whether the elasticity of total assets with respect to a husband’s or wife’s familial slave holdings changes after the passage of a MWPA. In some specifications we combine the two interaction terms and include $\Delta \gamma \log \left( \frac{W_{i,1840}}{W_{j,1840}} \right) \times LAW_{s,t}$. This allows us to directly compare households with a different distribution of husband’s and wife’s premarital wealth. The model predicts that $\gamma_1 > 0$, $\gamma_2 < 0$ and $\Delta \gamma > 0$.

One attractive feature of our data is that we observe couples who got married in the same state before and after a MWPA. We also have cross-state variation in the timing of these acts. Our data therefore allow us to include both state and year-of-marriage fixed effects ($D_s$ and $D_t$). To allow for the possibility that premarital wealth affects 1850 assets differently in different states and years of marriage, we also include interactions between premarital wealth and the state and year-of-marriage dummies (captured by vectors $\delta_1$ to $\delta_4$). In this specification, coefficients $\alpha_1$ and $\alpha_2$ are elasticities for the omitted state and year-of-marriage. They have no general interpretation and are not reported in the regression tables.

Approximately 45% of our households have zero real estate and slave assets in 1850. For our OLS estimates, we add $1$ to household assets in order for the log to be defined. For robustness, we rerun the regressions adding different dollar amounts, ranging from $0.10$ to $50$ (the lowest value for real estate that regularly appears in the 1850 census). Figure E3 reports the resulting estimates of the key coefficient $\Delta \gamma$. We also estimate Equation (1) as a Tobit, in which observations with $I_{i,j,t,s} = 0$ are treated as though they are censored. We transform all variables into z-scores so that the estimate of $\beta$ will reflect the impact of the law for the ”average” couple.

To test Hypothesis 2, we estimate regressions similar to (1), dropping the terms associated with $\gamma_1$ and $\gamma_2$, for different quintiles of the $W_{i,1840}/W_{j,1840}$ distribution. The key coefficient of interest is $\beta$, which tells us whether, conditional on 1840 familial slave holdings, couples married after a MWPA have more or less total household assets than couples married before. The model (Figure 1) predicts that $\beta$ is different for different parts of the $W_{i,1840}/W_{j,1840}$ distribution: negative for lower quintiles and positive for higher quintiles. Depending on whether there are a sufficient number of matches between rich men and poor women, $\beta$ might be zero for the highest quintile.
5.2 Main Results

Figure 2 uses binscatters to illustrate the relation between husband’s and wife’s 1840 familial slave holdings and total household assets in the 1850 census. All four panels control for state and year-of-marriage fixed effects. Panel A shows that, keeping a wife’s premarital wealth constant, an increase in husband’s premarital wealth increases 1850 asset holdings. Most importantly, this sensitivity is stronger for couples married after the passage of a MWPA. This is consistent with the model we wrote down. Panel B varies the wife’s premarital wealth and, again consistent with our model, shows the opposite result. Panel C combines the preceding two panels by looking at the log-ratio of husband’s and wife’s premarital wealth. The relation between $\log (W_{i,1840}/W_{j,1840})$ and 1850 assets is virtually flat for couples married before a MWPA, but upward sloping for couples married after. Moreover, couples where the husband’s share in premarital wealth is relatively large have higher 1850 asset holdings if they got married after the passage on an act. This difference in asset holdings dissipates in the right tail of the $W_{i,1840}/W_{j,1840}$ distribution. Panel D includes additional controls; results are virtually unchanged.

Tables 3 and 4 test Hypothesis 1. They report the OLS and Tobit estimates of equation (1). Odd numbered columns include $\log W_{i,1840} \times LAW_{s,t}$ and $\log W_{j,1840} \times LAW_{s,t}$ separately; even numbered columns include $\log[W_{i,1840}/W_{j,1840}] \times LAW_{s,t}$. All estimates include state and year-of-marriage fixed effects. In columns (3) and (4) we include age-at-marriage, state-of-birth and literacy fixed effects. We also control for the commonness of family names. As we explain in Appendix D, error in the measurement of a person’s premarital wealth is positively correlated with the commonness of surnames. To ensure that this does not affect our results, we calculate the prevalence of husbands’ and wives’ family names in their state of birth in 1840. We then divide husbands and wives into 10 bins where the first bin includes the rarest family names and the tenth bin the most common ones. We include bin fixed effects effects for both husbands and wives; estimates therefore capture the effect within groups of people whose family name is more or less equally prevalent in the population. Finally, in columns (5) and (6) we include a state specific time-trend estimated on the time of marriage. This way we control for state-specific changes in investment over time.\textsuperscript{14}

\textsuperscript{14}For example, suppose that for a certain state the wealth of married couples is increasing over time due to improving macro-economic conditions, such that a married couple in 1849 is on average richer than a couple married in 1841. Further suppose that this state introduced a married women’s property law some time between 1841 and 1849. In that case, we would mechanically find that couples married after a law change have more property in the 1850 census. As long as these macro-economic developments can be captured by a linear trend, a state-specific linear time trend should control for this. We explicitly control for a number of potentially important macroeconomic conditions in the
The results are consistent with the predictions from our simple model. In line with Lemma 5, the interaction terms indicate that 1850 asset holdings for couples who got married after the passing of a MWPA are increasing in husbands’ premarital wealth, decreasing in wives’ premarital wealth and increasing in the log-ratio of the two. Husband’s and wife’s premarital wealth are highly correlated and including them both as interaction terms with LAWS,t leads to relatively large standard errors (although both are statistically significant). Using the log-ratio of premarital wealth results in tighter estimates. Economic effects are sizable. The OLS estimates in Table 3 indicate that a one standard deviation increase in log(W_{i,1840}/W_{j,1840}) leads to 1850 asset holdings that are around 23% higher if a couple is married after a MWPA. In the Tobit estimates of Table 4 the comparable number lies around 28%.

Figure 3 tests Hypothesis 2. Here, we split the sample into five groups, based on the ratio of husband’s to wife’s premarital wealth. The cutoffs are dictated by the quintiles of this distribution. For clarity, we express these quintiles in terms of the fraction of joint premarital wealth coming from the husband \( (W_{i,1840}/(W_{i,1840}+W_{j,1840})) \). For each subsample, we estimate our regression equation and plot the \( \beta \)'s – the coefficients on LAWS,t – with 95% confidence intervals. Among couples in which the husband’s property accounts for less than 26% of joint premarital property, the MWPAs are associated with a significant decline in 1850 household asset holdings by about 50%. Among couples in which the husband brings in 55-72% of joint premarital wealth, the acts are associated with a significant increase in household assets of about 50%. There is no effect for couples in which the husband’s property accounts for 26-54% of premarital property. Among couples in which the husband brings more than 72%, the laws also have no effect on asset holdings. This is in line with our model. If the degree of protection offered is too low, it has no effect on the household’s behavior; the protection offered will be insufficient to induce the household to take on more risk, borrow, and purchase more assets.

### 5.3 Economic impact

In Figure 3 we also explore whether the economic size of the effect that we find is in the right ballpark. To do so, we provide a simple back-of-the-envelope calculation based on our theoretical model. The model predicts that after the passage of a MWPA, couples for whom the husband’s

---

\(^{15}\) The Tobit estimates report both simple coefficients, measuring the impact on the (uncensored) latent variable, and the marginal effect on our censored measure of household assets. The latter is estimated at the mean value of our explanatory variables and is what we refer to here.

\(^{16}\) For simplicity, we abstract away from consumption here.
share in premarital wealth is not too large will borrow the maximum amount against the assets that are in the husband’s name and are pledgeable. We denote the maximum fraction that a husband can borrow against his assets as \( \mu \). Before the passage of a law, households borrow against their total assets. We denote the associated fraction borrowed as \( \lambda \). In general, \( \mu > \lambda \). The following table gives the balance sheets of couples married before and after the passage of a MWPA,

<table>
<thead>
<tr>
<th>Before</th>
<th>After</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assets: ( Y ) and ( Y' )</td>
<td>Assets: ( Y' ) and ( Y'' )</td>
</tr>
<tr>
<td>Liabilities: ( w = w_M + w_F )</td>
<td>Liabilities: ( w = w_M + w_F )</td>
</tr>
<tr>
<td>( \ell = \lambda Y )</td>
<td>( \ell' = \mu (Y' - w_F) )</td>
</tr>
</tbody>
</table>

where \( Y \) and \( Y' \) and \( \ell \) and \( \ell' \) are total asset holdings and credit for couples married before or after an act, respectively; \( w_M \) and \( w_F \) are the husband’s and wife’s premarital wealth.

For some ratio \( w_M/(w_M + w_F) = (w_M/w)^* \), the impact of a MWPA is zero:

\[
\ell = \ell', \quad \frac{\lambda}{1-\lambda} \frac{w}{w_M} = \frac{\mu}{1-\mu} \frac{w_M}{w}
\]

We can use this point to calculate the relation between \( \lambda \) and \( \mu \):

\[
\lambda = \frac{\mu \left( \frac{w_M}{w} \right)^*}{(1-\mu) + \mu \left( \frac{w_M}{w} \right)^*}
\]

Given a guess for \( \mu \), this pins down the ratio \( Y'/Y \) for all points along the \( w_M/w \) distribution. In particular,

\[
\frac{Y'}{Y} = \frac{w + \frac{\mu}{1-\mu} \frac{w_M}{w}}{\left( 1 + \frac{\lambda}{1-\lambda} \right) w} = \frac{1 + \frac{\mu}{1-\mu} \frac{w_M}{w}}{1 + \frac{\lambda}{1-\mu} \left( \frac{w_M}{w} \right)^*}
\]

Figure 3 suggests that \( (w_M/w)^* \) lies around 0.42. The figure includes the back-of-the-envelope predictions of \( \log(Y'/Y) \) that correspond to different \( \mu' \)s, ranging from 0.5 to 0.9. Again, \( \mu \) is the maximum fraction of pledgeable assets that can be borrowed. The historical overview in Appendix A suggests that households could borrow up to 50% of the value of their real estate and 67% of the value of their slaves (Kilbourne [1995], Tadman [1989]). On top of this, households obtained credit from country stores for their working capital that was implicitly collateralized by the same assets.
(Atherton [1949], Marler [2013]). The figure shows that for \( \mu \in [0.6, 0.9] \), the predicted changes in total assets are all within the 95% confidence interval of our empirical estimates. Combined with \((w_M/w)^* = 0.42\), a \( \mu \) of 0.6, the most conservative \( \mu \) consistent with our empirical estimates, implies that couples borrowed against 39% of their assets if they got married before the passage of a MWPA.

In section A.3.8 of the Appendix, we estimate the volume of credit in the U.S. South. This information is only available for particular parts of the financial system. Our (incomplete) estimate of available credit amounts to about 28% of the total value of real estate and slaves. Because we miss important sources of credit, the true ratio was likely much higher. The debt-to-asset ratio of 39% implied by our simple model therefore appears to be in the right ballpark.

### 5.4 Credit intensity

If the impact of MWPAs on asset holdings is driven by the credit market effects described in our model, we would expect the impact to be most pronounced in places where families relied more heavily on credit. To this end, we explore heterogeneity in our main effect by characteristics of the county the couple was married in. The secondary literature reviewed in Appendix A suggests that households relied most heavily on credit if they were engaged in agriculture, especially in cotton production. We therefore test whether the effect is greater in more rural or more cotton intensive counties. We divide our sample into terciles of the cotton intensity or population density distribution, and we estimate the specification from column (6) of Table 3 on each subsample.\(^{17}\)

The coefficients on \( \log(W_{i,1840}/W_{j,1840}) \times LAW_{s,t} \) are plotted in Figure 4. We find that the main effect of interest is most pronounced in the most cotton intensive and least densely populated counties. This is not conclusive evidence for the mechanism we have in mind, there may be other explanations for this heterogeneity, but it is suggestive.\(^{18}\) In the next section, we explore alternative potential mechanisms that may generate our findings in more detail.

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\(^{17}\)Cotton intensity is defined as the ratio of the value of cotton output to the value of total agricultural output at the county level (Haines et al 2016). Population density is defined as a county’s white population per square mile (Haines et al 2010).

\(^{18}\)For example, our measure of premarital wealth may simply be most accurate in rural and cotton-intensive counties, as it is based on slave holdings. Thus, focusing on rural or cotton intensive counties may simply remove attenuation bias.
6 Alternative Mechanisms

In this section, we explore a number of alternative mechanisms that may drive our main findings. We discuss (1) changes in spousal bargaining power after the enactment of a MWPA, (2) changes in the correlation between the spousal wealth gap and unobserved match quality, (3) changing bequest behavior on the part of a couple’s parents, (4) the introduction of state level homestead exemptions, (5) state-varying macro conditions, which may have been correlated with the timing of adoption of MWPAs, and (6) potential measurement error in our measure for premarital wealth. We argue that none of these alternative mechanisms can account for our main findings.

In addition to the sensitivity analysis described here, Appendix E presents a series of other robustness tests. In Table E6, we add interactions between husband’s and wife’s name frequency bins and state and year fixed effects and we drop states that never pass a MWPA from the analysis. In Figure E3, we plot the main coefficient of interest after adding different dollar amounts to our measure of 1850 household assets before taking logs, ranging from $0.10 to $50 (the smallest value of household wealth that regularly appears in the 1850 census). Finally, in Figure E4 we present the results from a placebo test, in which we randomly assign marriage dates to couples and re-estimate our core specification. This is intended to address the concern that the passage of the property laws is somehow endogenous to household investment: perhaps couples living in states that passed property laws early differed systematically from those living in states that passed them late or not at all, and our results merely reflect this underlying difference. We do this 10,000 times and plot the distribution of our key coefficient on \( \log(W_{i,1840}/W_{j,1840}) \times LAW_{s,t} \) in the figure. The coefficient from these placebo specifications is centered around zero, and the coefficient we estimate from the true data is in the far right tail of the distribution.

6.1 Spousal Bargaining Power

In our model, we consider the household as a unitary decision maker whose ability to access credit markets changes after the passage of a MWPA. However, husband and wife may have different preferences over consumption and investment. If the law change conferred more bargaining power to women, this will affect the way decisions are made within the household, and may affect observable outcomes like asset holdings. In this section, we consider the degree to which changes in spousal bargaining power may influence our results.

As we discuss in Section 2 and Appendix B, the prime reason for the passing of the MWPAs
was debtor protection; the laws were not intended to give women more economic independence. The MWPAs we consider in this paper were different from other and later acts that granted women full autonomy over their separate property and the right to enter into contracts independently of their husbands. Nonetheless, by prohibiting husbands from unilaterally disposing of their wives’ property, it is undeniable that these laws would have devolved a certain amount of bargaining power to women. First, a MWPA made it less attractive for a husband to abandon his family. Before passage, he could simply take his wife’s movable property with him; after passage this was impossible. This reduced the risk of abandonment and may have made the wife more assertive in voicing her demands. Second, under a MWPA, the husband needed formal approval from his wife if he wanted to sell and reinvest her assets. If such a transaction mainly benefitted the husband, the wife could have credibly threatened to withhold her approval, thereby increasing her bargaining power (see Appendix B, Section 6 for a more detailed discussion of this point). It is likely that the increase in the wife’s bargaining power would have been proportional to the share of assets she brought into the household.

In Appendix C, we write down a simple model, based on Doepke and Tertilt (2009), in which husbands and wives have preferences over their own and their children’s consumption. A couple is endowed with a certain amount of physical capital. They are also endowed with human capital, which, in conjunction with the time they devote to production, forms the labor input in the couple’s production function. Once the couple has produced output, they must decide how much to consume, and how much to transfer to their children. This transfer becomes children’s endowment of physical capital. The children’s human capital is a function of the couple’s human capital, and the amount of time the couple spends on their children’s education rather than on the production of physical output.

Following Doepke and Tertilt (2009), we assume that women place more weight on their children’s consumption than men, and that the enactment of a MWPA increases women’s bargaining power. Thus, the enactment of a law increases the weight the couple places on children’s consumption. Intuitively, this encourages the couple to devote more time to investing in children’s human capital, which lowers the amount of output the couple produces (by shifting resources from production to children’s education). However, the introduction of a property law also encourages the couple to reduce consumption and transfer more capital to their children. We illustrate this

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19In fact, the literature on the impact of MWPAs on women’s economic activity, for example Kahn (1996), largely ignores the southern “debt relief” laws for this very reason.
result graphically in Appendix Figure E5.

This alternative explanation may contribute to our findings, but cannot explain them entirely. We find that couples in which women own a large share of family property – which should have seen the largest increase in women’s bargaining power – have fewer asset holdings in 1850; couples in which women own a small share of family property have more (see Figure 3). If 1850 assets capture future transfers to children, increased female bargaining power would predict the opposite of what we find in the data. If, instead, 1850 assets capture total household output, an increase in female bargaining power would only explain the first part of our result: couples in which women have more bargaining power will produce less physical output. It cannot explain the second part of our result: no woman should experience a decline in bargaining power, and, therefore, couples married after the passage of a MWPA should not structurally produce more physical output than couples married before.

For a model of changing bargaining power to be able to entirely explain our findings, we would need to assume that women married to richer and poorer men have systematically different preferences over children’s consumption, or that fixed assets measure something different for these different types of couples. Such an assumption would be difficult to justify. Thus, while an increase in female bargaining power may contribute to our findings, it cannot be the entire story.

6.2 Spousal wealth gap and unobserved match quality

We interpret variation in $w_M/w_F$ as exogenous variation in the ratio of unprotected to protected assets. However, it is possible that $w_M/w_F$ is correlated with the unobserved productivity of a marriage, and that this changes after the passage of a property law. If this is the case, our results may be biased. We consider two sources of bias: (1) unobservably productive couples optimizing over protection regimes, by moving between states or selectively timing their marriages; (2) property laws changing the value of wealth in the marriage market, which may change the distribution of unobserved productivity conditional on spousal wealth.

6.2.1 Endogenous timing and location of marriage

The first concern is that the property law under which a couple is married is at least partly endogenous. For example, according to our model, a couple with a relatively rich husband and a relatively poor wife is better off marrying in a state with a MWPA in place. So, such a couple might find it optimal to relocate to a state that has already enacted a law; or, if the couple foresees a law
being enacted in its home state, it may find it optimal to postpone marriage until after the law has been passed. This is a threat to identification if couples who are able to optimize in this way are also systematically more productive on unobservable dimensions. In fact, we do find evidence of a certain amount of optimizing behavior.\textsuperscript{20}

To address this concern, we estimate our baseline model by two stage least squares, using instruments for \( LAW_{s,t} \) and the interaction between \( LAW_{s,t} \) and the gap between husband’s and wife’s log premarital wealth. We use the following instruments for \( LAW_{s,t} \): an indicator for a law having been passed in the bride’s state of birth by year \( t \); an indicator for a law having been passed in the groom’s state of birth by year \( t \); an indicator for a law having been passed in state \( s \) by the year in which the bride turns 22; and an indicator for a law having been passed in state \( s \) by the year in which the groom turns 27. In our sample, the average age at marriage for women is 22, and the average age at marriage for men is 27. We use interactions between the above instruments for \( LAW_{s,t} \) and \( \log(w_M/w_F) \) to instrument for \( LAW_{s,t} \times \log(w_M/w_F) \). The instruments based on birth state deal with selective migration into states with or without protection, and the instruments based on birth year deal with selective timing of marriage.

Our 2SLS results are presented in table 5. In column (1), we repeat our main OLS specification, with the full set of controls. In the remaining columns, we use instruments based on birth year and/or birth state. The 2SLS results are consistent with a certain amount of optimizing on the part of couples – the coefficient on the interaction between \( LAW_{s,t} \) and the spousal wealth gap declines in magnitude – but the coefficient is still economically and significant at the 10 percent level. This indicates that our main finding is not purely an artifact of selection. Interestingly, the negative coefficient on \( LAW_{s,t} \) increases quite substantially in magnitude, suggesting that the causal effect of the law on investment is more negative than our OLS estimates indicate.\textsuperscript{21}

\textsuperscript{20}In particular, we find that, among couples in which the wife comes from a state without a property law in place at the time of marriage, a one standard deviation increase in \( \log(w_M/w_F) \) is associated with a 0.1 percentage point increase in the probability of the couple marrying in a state that does have a property law (this is conditional on state of marriage, wife’s state of birth, and year of marriage). This is an economically small but statistically significant effect, and we find a similar effect on the probability of leaving the husband’s state of birth for marriage. Looking at a narrow band of ± 1 year from the passage of a married women’s property law, we find that a one standard deviation increase in \( \log(w_M/w_F) \) is associated with a 2 month increase in the wife’s expected age at marriage after the passage of a law. This is consistent with couples with wealthier men and poorer women being more likely to delay marriage until after a law has been enacted. Again, this is a small (and very local) effect, but it is significant at the 10% level.

\textsuperscript{21}To address concerns about the selective timing of marriage, we do an additional test. We assume that the timing of marriage is relatively local – couples may postpone marriage by up to, say, a year in anticipation of the passage of law, but not more. Outside of a year, postponing marriage will be costly, and the ability to accurately forecast the passage of a law is limited. So, we drop all couples who marry less than a year before or after the enactment of a property law. The coefficient on the interaction between \( LAW_{s,t} \) and \( \log(w_M/w_F) \) declines slightly in magnitude, but it remains positive and significant.
6.2.2 Changing match quality

Koudijs and Salisbury (2016) document that the passage of MPWAs affected the composition of marriage matches. In particular, they find evidence that these laws increased the systematic gains from assortative matching on wealth among couples with relatively richer husbands; however, they lowered the gains from assortative matching among couples with relatively richer wives. If the systematic gains from assortative matching change, this will change the profile of matches that actually occur. In our estimates, we explicitly control for individual pre-marital wealth levels, in addition to a host of other individual characteristics such as age, literacy and place of birth. Pre-marital wealth is based on information from the 1840 census and has common support before and after the passing of the law. This means that including individual wealth levels in the regressions is sufficient to deal with changing spousal wealth pairings caused by the passage of a law. Nevertheless, the paper’s estimates are still biased if the average quality of marital matches changes in some unobservable way that is correlated with differences in spousal pre-marital wealth.

Suppose that, before the passage of a law, a man would only marry a poorer woman if the match was highly favorable in some other, unobservable way. Further, suppose that spousal wealth became more valuable to men after the passage of a law, so the same man would require an even higher unobservable match quality in order to marry the poorer woman. In that case, marriages involving relatively rich husbands would have systematically better unobservable qualities after the legal change, and this might explain why they held more assets in 1850. We first note that we consider this possibility unlikely. The notion that unobserved marital productivity increases monotonically in $w_M/w_F$ after the passage of a law is inconsistent with the evidence on marriage market impacts presented in Koudijs and Salisbury (2016). Moreover, because protection makes matches with relatively richer husbands systematically more valuable, we should expect such matches to decline in average unobservable quality, as rich men and poor women should require a lower unobservable quality “bar” in order to marry.

Still, to explore this possibility directly, we look at two indicators of unobservable match quality: marital separation and fertility. Intuitively, couples that have better unobserved match qualities are less likely to separate. While divorce was uncommon during the 1840s, marital separation was not. Cvercek (2009) estimates that approximately 10% of marriages were “disrupted” during the mid to late 19th century, most often during the first five years of marriage. As such, co-residence in 1850 should be positively correlated with match quality. Fertility, or investment in children, is also
commonly used as a measure of match quality.\textsuperscript{22} In our case, we can observe two outcomes which are related to match quality: (i) whether or not we are able to link a couple to the census of 1850; (ii) whether or not the couple has children in 1850. We regress indicators for these outcomes on an indicator equal to one if a couple was married after the passage of a law, the difference between the husband’s and wife’s premarital wealth, and an interaction between these two variables. We present these results in Table 6.\textsuperscript{23}

We find no evidence that couples with relatively rich husbands are more likely to be linked to the census of 1850 if they are married after the passage of a property law. This is inconsistent with such couples having higher unobserved match quality. A limitation is that we cannot tell exactly why a couple is not linked to the census. In particular, it could be that couples with relatively rich husbands produce more children after the passage of a law, and – although they have higher match qualities – we are no more likely to find them in the 1850 census because of maternal mortality. However, we also find evidence that couples with relatively rich husbands who were married after the passage of a law are less likely to have children, conditional on being linked to the 1850 census. This is conditional on years of marriage, and omits couples who had been married for less than one year in 1850, or who were married when the wife was over the age of 40. Taken together, we interpret this to mean that changes in unobservable match quality cannot explain our results.

6.3 Bequests to children

6.3.1 Sons versus daughters

Next, we investigate whether differences in 1850 real estate and slave holdings are actually the result of changes in bequest behavior on the part of couples’ parents. For this to explain the baseline results in Tables 3 and 4, it would need to be the case that parents bequeath less to their daughters and more to their sons after the passage of a MWPA. This is plausible, as assets in the hands of married daughters become less valuable, as they can no longer be used as collateral. The first thing to note is that this not an obvious outcome. For example, in 1846 the Alabama legislature argued that the passing of a marriage law did not only protect a woman against a husband’s insolvency, but

\textsuperscript{22}Several papers, such as Stevenson (2007), interpret children as an investment in a marriage, and consider the impact of changing divorce laws on fertility and other marital investments. An implication is that couples in higher quality marriages should make greater investments in these marriages, such as children.

\textsuperscript{23}When we look at the impact of property laws and premarital wealth on the probability of being matched to the 1850 census, we define premarital wealth for a person with surname \(i\) married in state \(s\) as mean slave holdings among families with surname \(i\) in state \(s\). In our baseline estimates, we match to the 1840 census using state of birth rather than state of marriage, which we believe is the more appropriate measure; however, we do not know state of birth for couples who we could not find in the 1850 census. Fortunately, the two measures are highly correlated.
also against his “intemperance or improvidence”.24 If parents valued this protection, they might have become less reluctant to bequeath assets to their daughters.

We can test for this more formally in the following way, starting with the 1840 census. For each surname in each state, we calculate the mean fraction of children in households with that surname that are male (%ChildrenMale_{j,1840}). For a wife with maiden name \( j \), this is a measure of the fraction of her siblings that are male. This is a useful metric because it captures a family’s scope for shifting bequests away from daughters and toward sons. We test whether there is any interaction effect on 1850 household assets between \( %\text{ChildrenMale}_{j,1840}, \text{LAW}_{s,t}, \text{and } W_{j,1840}. \)

If our baseline results are driven by changing bequest behavior, we should expect the coefficient on this interaction to be negative: women with brothers should experience a larger decline in bequests than women without brothers, so women with brothers should experience the largest decline in the elasticity of 1850 investment with respect to premarital wealth.

The first three columns of Table 7 presents the results. Contrary to the above conjecture, the coefficient on the interaction between \( %\text{ChildrenMale}_{j,1840}, \text{LAW}_{s,t}, \text{and } W_{j,1840} \) is positive and significant. In other words, women with brothers receive more transfers out of parental assets after the passage of a law than women without brothers. This is likely a response to the fact that wealth conveyed to a daughter is now better protected against a husband’s “improvidence”. The implication of this finding is that changing bequest behavior cannot account for our baseline results: rather, it seems to work in the opposite direction. The legal change seems to favor bequests to women, and we would therefore expect the interaction between a wife’s familial wealth and the Post Law dummy to be positive, not negative. This suggests that the baseline results in Tables 3 and 4 are actually a lower bound on the effect of increased debtor protection on investment.

6.3.2 Slaves versus real estate

An additional concern is that parents altered the composition of transfers to sons and daughters after the passage of a MWPA. This is problematic, as premarital wealth is measured exclusively by slaveholdings, while postmarital investment is measured by real property and slaveholdings. Thus,

24Similarly, 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 [1960], p. 150 and 170).

25We estimate our main specification, adding \( %\text{ChildrenMale}_{j,1840}, \text{LAW}_{s,t}, \text{LAW}_{s,t} \times \log W_{j,1840}, \text{state and year of marriage fixed effects}, \text{and the interaction between } \log W_{j,1840} \text{ and state and year of marriage fixed effects.}
if parents transferred a different mix of real and slave wealth to their sons and daughters after a property law was in place, this has implications about the way in which postmarital investment should respond to a husband’s and wife’s premarital property. In particular, suppose that parents transferred only real property to sons and only slaves to daughters before the passage of a property law; however, after the passage of a property law, they transferred both real property and slaves to children of both sexes. In this case, familial slaveholdings would become a better measure of the assets men bring into a marriage and a worse measure of the assets women bring into a marriage. This would bias us in favor of our key empirical finding.

The literature review in Appendix B suggests that during colonial times, sons would usually receive land and daughters movable property, often in the form of slaves. However, by 1840 bequest patterns had already become much more dispersive and southern women often came into the possession of both slaves and real estate. Nevertheless, at least on the margin, one might expect that the MWPA changed bequest patterns in such a way that women were more likely to receive real estate and men more likely to receive slaves. Under common law, husbands obtained full ownership of the wife’s moveable property, while they only obtained a life-time lease on the wife’s real estate. Thus, real property may have been less attractive in the marriage market before a married women’s property law was enacted, causing parents to transfer more slaves and less real estate to their unmarried daughters. This imperative would have vanished after the passage of a MWPA, which protected all transfers from parents to daughters.

If parents changed bequests to children in this way, it has particular testable implications about the way in which postmarital real and slave wealth should individually respond to a husband’s and wife’s familial slave wealth. To see what these implications are, consider the following simple illustration. Define $S^{1840}_M$ and $S^{1840}_F$ to be a husband’s and wife’s familial slaveholdings, respectively. Similarly, define $R^{1840}_M$ and $R^{1840}_F$ to be a husband’s and wife’s familial real estate holdings, which are unobserved. However, as real and slave wealth are highly correlated (with a correlation coefficient of 0.49 in our baseline sample for 1850) we can write $R^{1840}_i$, $i \in \{M, F\}$ as follows:

$$R^{1840}_i = \phi_1 + \phi_2 S^{1840}_i + \epsilon_i$$

where $\phi_2 < 1$.

Suppose that, in the absence of a property law, parents transfer all slave wealth to daughters and all real wealth to sons. Assuming that a couple’s assets are exactly equal to transfers from
parents – which must be at least approximately true in order for this mechanism to explain our results – we can write the couple’s total assets as follows:

\[ W^{1850, \text{pre}} = \phi_1 + \phi_2 S_{1840}^{M} + \epsilon_M + S_{1840}^{F} \]

Now suppose that, after the passage of a property law, parents transfer half of both slave and real wealth to both daughters and sons. Now, a couple’s total assets will be equal to:

\[ W^{1850, \text{post}} = \phi_1 + \frac{1 + \phi_2}{2} (S_{1840}^{M} + S_{1840}^{F}) + \frac{1}{2} (\epsilon_M + \epsilon_F) \]

Thus, \( \partial W^{1850} / \partial S_{1840}^{M} \) will increase from \( \phi_2 \) to \( \frac{1 + \phi_2}{2} \) (which follows from \( \phi_2 < 1 \)), and \( \partial W^{1850} / \partial S_{1840}^{F} \) will decrease from 1 to \( \frac{1 + \phi_2}{2} \). This demonstrates that such a change in the composition of parental bequests may indeed generate our key finding.

Now, consider what happens to the responsiveness of postmarital real and slave wealth individually (\( R_{1850} \) and \( S_{1850} \)). Before the passage of a property law, we have the following:

\[ R^{1850, \text{pre}} = R_{1840}^{M} = \phi_1 + \phi_2 S_{1840}^{M} + \epsilon_M \]
\[ S^{1850, \text{pre}} = S_{1840}^{F} \]

After the passage of a property law:

\[ R^{1850, \text{post}} = \phi_1 + \frac{\phi_2}{2} (S_{1840}^{M} + S_{1840}^{F}) + \frac{1}{2} (\epsilon_M + \epsilon_F) \]
\[ S^{1850, \text{post}} = \frac{1}{2} (S_{1840}^{M} + S_{1840}^{F}) \]

Differences are given by

\[ \Delta R_{1850}^{1850} = \frac{\phi_2}{2} (S_{1840}^{F} - S_{1840}^{M}) + \frac{1}{2} (\epsilon_F - \epsilon_M) \]
\[ \Delta S_{1850}^{1850} = \frac{1}{2} (S_{1840}^{M} - S_{1840}^{F}) \]

Thus, 1850 real property should become less responsive to the husband’s premarital slave wealth and more responsive to the wife’s premarital slave wealth. Conversely, 1850 slave wealth should become more responsive to the husband’s premarital slave wealth and less response to the wife’s premarital slave wealth. These results are summarized by the following table:
We test this directly in the last three columns of Table 7. In columns (4) and (5), we repeat the baseline specification using 1850 log real and slave assets, respectively, as the dependent variable. Contrary to the above argument, it appears that 1850 real estate becomes *more* responsive to husband’s premarital wealth and *less* responsive to wife’s premarital wealth. Slave wealth becomes *more* responsive to husband’s premarital wealth but does not become *less* responsive to wife’s premarital wealth. In other words, compared to the above table only one out four coefficients has the right sign. Thus, while the coefficients are noisily estimated, we find little to suggest that the shifts in parental bequest behavior described above are at play.

### 6.4 Other debtor protection measures

Next, we look at whether the introduction of other forms of debtor protection, in particular homestead exemptions, affect our empirical results. Although most states waited until the 1850s, some states already introduced homestead exemption laws in the 1840s. These laws protected a minimal amount of real estate property in case of insolvency. In 1850, the average amount protected was $363, about $11,500 in today’s money. Details are in Table A2 in Appendix A. Note that our estimates are based on investment in 1850 and included state fixed effects. Differences in homestead exemptions between therefore have no direct effect on our results. However, it is possible that material investment decisions are made around the time of marriage, and that the contemporaneous exemption level matters for this decision. If changes in exemption levels are correlated with the timing of the married women property acts, this might explain our findings. For each couple we determine the level of state exemptions in the year of marriage based on the information provided by Farnam (1938) and Coleman (1974). The first three columns of Table 8 shows that exemption levels at time of marriage are negatively and significantly correlated with household investment in 1850, and they interact negatively (if at all) with the log-difference between husband’s and wife’s wealth. Most importantly, the interaction effect between the Post Law dummy and the difference between husband’s and wife’s wealth is unaffected by the inclusion of state exemption levels (compare Table 8 with the coefficients in Tables 3 and 4).
Finally, we address the possibility that the timing of the enactment of a MWPA is correlated with the state’s economic performance in the aftermath of the Panic of 1837. If so, this may bias our results. First of all, we consider this possibility unlikely. If we were relying exclusively on cross-state variation in protection, then the endogeneity of laws would be a first order concern. However, because these laws apply only to newlyweds, we have variation in protection within a state in 1850.

If states passed property laws because of economic distress, then we should expect to see fewer assets held by all couples residing in a state that has passed a law, not just couples married after the passage of a law. Granted, it is possible that couples make important investment decisions at the time of marriage, which depend on macro conditions, so couples who were married in different economic climates may fare differently later on. Still, this should affect all couples married in the same year equally: there is no reason for the effect of macroeconomic conditions on investment to be contingent on the fraction of household wealth brought into the marriage by the husband or wife. In this sense, our triple difference specification circumvents the issue of different macro-economic altogether.

To address any remaining concerns, we test whether or not our results are affected by economic performance after the Panic of 1837. The main driver of this crisis was a drop in cotton prices, which precipitated a drop in slave prices. So, states that relied more heavily on cotton and slaves should have fared worst. In Figure E6, we plot Kaplan-Meier survival estimates, which capture the probability of not having passed a property law in each year. We estimate these separately for states with “high” and “low” cotton intensity – measured as the ratio of pounds of cotton picked in 1840 per white population – and for states with “high” and “low” slave intensity – measured as the ratio of slaves per white population in 1840. Some cotton- and slave-intensive states passed laws early on (Florida, Mississippi, Alabama), but other states with low cotton and slave intensity did too (Maryland, Kentucky). Moreover, low cotton- and slave-intensity states passed laws in 1849 and 1850 (North Carolina, Tennessee) while states with higher cotton and slave intensities (Georgia, South Carolina) did not. This suggests that there is no strong link between macro conditions and the timing of the laws. To explicitly test whether or not this affects our results, we control for annual cotton and slave prices, interacted with state fixed effects; in addition, we control for state-level cotton and slave intensity according to the 1840 census, interacted with year fixed effects. These results are presented in the last three columns of Table 8. Our results are not sensitive to
these controls.

6.6 Measurement Error

In addition to these main robustness tests, we test that our results are not sensitive to measurement error generated by our data construction. In particular, we show that our results are not sensitive to error in the measurement of premarital wealth. We are imputing a person’s premarital wealth as average slave holdings among households with the same name from the same state; thus, this measure is more noisy for individuals with more common names.\footnote{For a detailed discussion of error in the measurement of this variable, see Appendix D.} We address this by overweighting uncommon names; these results are presented in Table E5. We also test the sensitivity of our results to dropping households with husbands and wives who have common names. In Figure 5, we plot the OLS coefficient on $LAW_{s,t} \times \log \frac{W_i,1840}{W_j,1840}$ obtained by estimating our preferred specification (column (6) of table 3), omitting households in which the husband or wife has a name occurring more than a certain threshold. The threshold varies from 3 to 100; we have fewer than 500 observations in which both the husband and wife have a name occurring only once or twice. Our estimate does not appear to be sensitive to omitting frequently occurring names; however, when we restrict the sample to names occurring fewer than 8 times, our sample shrinks to fewer than 2,000 observations and our estimates become quite volatile.

7 Conclusion

In this paper, we study the impact of the introduction of Married Women’s Property Acts (MWPAs) in the U.S. South in the 1840s on household investment. These laws gave households downside protection (by shielding a wife’s property from creditors) in an environment that lacked virtually any other form of limited liability. The exact amount of protection depended on husbands’ and wives’ premarital wealth and differed substantially across households. This allows us to evaluate the impact of different degrees of protection on investment.

We find that the introduction of the MWPAs increased household investment when husbands were wealthier than wives; however, they decreased investment when husbands were poorer. This suggests that there was an important interaction between the acts and credit markets. For some couples, a property law offered significant protection in downturns, thus increasing the amount of debt they were willing to take on. For others, it mainly imposed credit constraints, reducing
investment. This is consistent with the finding in the pioneering work of Gropp, Scholz and White (1997) that richer households benefit more from state-level bankruptcy exemptions, possibly because exemptions are defined in absolute dollar terms and therefore make up a smaller fraction of total assets for wealthy individuals.

These results confirm the economic intuition (formalized in a simple model) that the increased risk sharing between debtors and creditors enabled by limited liability will only increase investment if the amount of protection is modest. We estimate that the optimal amount of protection is about 25% of assets. In the presence of moral hazard, too much protection tightens credit constraints and reduces investment relative to a situation of unlimited liability. In our setting, we find that if more than 45% of assets are protected, the beneficial impact of limited liability disappears. This is obviously a context-specific result, but it highlights the significance of borrowers' skin-in-the-game for getting access to credit. Limited liability can facilitate investment, but too much of it leads to agency problems and limits the availability of outside funding. Since these underlying frictions extend well beyond our particular historical setting, we believe that our findings are important for understanding the impact of limited liability on investment decisions more generally.

The key advantage of our historical context is that we can analyze the impact of dramatically different degrees of protection in a setting where other forms of debt relief, like the availability of Chapters 7 and 12, were virtually non-existent. As a result, we are able to document both the benefits and costs of limited liability in one single setting. We are also able to address a number of econometric and conceptual issues confronting the existing literature. First of all, due to the forward looking nature of the MWPAs (existing marriages were unaffected) we can compare couples in the same state and in the same year who were married before and after the passage of the law. Relying on within state-year variation allows us to keep many potentially confounding factors constant. This is a significant improvement over the existing micro-econometric literature that predominantly relies on cross-state variation in bankruptcy exemption levels. Second, we can calculate a clean measure of the fraction of assets protected in case of insolvency: the share of total assets owned by the wife. Again, this is an improvement over the existing literature relying on cross-state variation in bankruptcy exemptions.27 Third, since only newlyweds were affected by the legal changes, we can practically rule out any general equilibrium effects that might, for example, provide an alternative explanation for why rich households seem to benefit more from

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27Due to the fact that exemptions are defined in absolute dollar terms, most variation in the fraction of assets protected within a state comes from variation in wealth levels. This might be correlated with many other factors such as access to investment projects.
higher exemption levels (Lilienfeld-Toal, Mookherjee, and Visaria [2012]).

References


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**Figures and Tables**
Figure 1: Main Results, Model

Note: This figure shows how the law change affects A. Total investment, B. Utility, C. Borrowing or outside investment, D. Consumption at $t = 0$, E. Consumption at $t = 1$ if the project fails, F. Consumption at $t = 1$ if the project succeeds for couples with a different distribution of assets between partners, while keeping total wealth constant. Parameters: $w = 1$, $\overline{R} = 1.6$, $R = 0.9$, $\beta = 0.9$, $\theta = 1$. 

$\phi_1$, $\phi_2$
Figure 2: Investment and Protection

Note: This figure explores the relation between the difference in spousal familial wealth and 1850 household investment using bincatters grouping the following x-variables in 25 bins: Panel A: husband’s 1840 familial wealth; Panel B: wife’s 1840 familial wealth; Panels C and D: the ratio of husband’s to wife’s 1840 familial wealth. Panels A and B show how much investment changes keeping spousal 1840 familial wealth constant. All panels control for state and year-of-marriage fixed effects. Panel D includes additional controls, see Table 5 for details. All variables are in logs.
Figure 3: Investment and Protection: Net Effects

Note: This figure plots coefficients from a regression of log 1850 investment on an indicator for the couple having been married after the passage of property law, restricting the sample to couples in which the husband owns a particular share of the couple’s premarital wealth. All regressions contain a full set of controls (see notes to table 3 for details). 95% error bars included, where standard errors are clustered on three levels: state × year-of-marriage, groom’s surname-birthplace, bride’s surname-birthplace. The dashed lines indicate the net effect on asset holdings implied by our model, under different assumptions about the maximum possible amount a husband can borrow against his own assets (a $\mu$ of 0.6 indicates that a husband can borrow at most 60 cents out of each dollar of collateral pledged). See section 5.3 for details.
Figure 4: Investment and Protection: Heterogeneity in Main Effect by County Characteristics

Note: This figure plots coefficients from regression of log 1850 investment on \( \log(\frac{W_{M,1840}}{W_{F,1840}}) \times L_{AW_{s,t}} \) when the sample is restricted to couples married in counties in different terciles of the cotton intensity or population density distribution. Cotton intensity is defined as the ratio of a county’s value of cotton output to that county’s total agricultural output (Haines et al 2016). Population density is defined as the white county population per square mile (Haines et al 2010). All regressions contain a full set of controls (see notes to table 3 for details). 95% error bars included, where standard errors are clustered on three levels: state × year-of-marriage, groom’s surname-birthplace, bride’s surname-birthplace.
Figure 5: Sensitivity to Omitting Common Names

Note: Plots the OLS coefficient on $LAW_{s,t} \times [\log W_{i,1840} - \log W_{j,1840}]$, and 95% confidence intervals, using the specification from Column (6) in Table 3. At each point, the coefficient and confidence interval are estimated under the restriction that neither the husband or wife has a name occurring more than the threshold indicated on the horizontal axis. The sample size associated with each sample restriction is also plotted.
<table>
<thead>
<tr>
<th>State</th>
<th>Date Main Law Change</th>
<th>Protection Wife’s Assets</th>
<th>Ability to Sell Wife’s Assets</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alabama</td>
<td>Mar 1, 1848</td>
<td>All property owned at time of marriage, or acquired afterwards</td>
<td>Wife cannot sell</td>
</tr>
<tr>
<td>Arkansas</td>
<td>–</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Florida</td>
<td>Mar 6, 1845</td>
<td>All property owned at time of marriage, or acquired afterwards</td>
<td>Husband and wife can jointly sell real estate</td>
</tr>
<tr>
<td>Georgia</td>
<td>–</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kentucky</td>
<td>Feb 23, 1846</td>
<td>Real estate and slaves owned at time of marriage, or acquired afterwards</td>
<td>Husband and wife can jointly sell real estate</td>
</tr>
<tr>
<td>Louisiana</td>
<td>–</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mississippi</td>
<td>Feb 28, 1846</td>
<td>Real estate owned at time of marriage and all other property required for the maintenance of the plantation (incl. slaves)</td>
<td>Husband and wife can jointly sell real estate; wife can sell individually if required for maintenance</td>
</tr>
<tr>
<td>North Carolina</td>
<td>Jan 29, 1849</td>
<td>Husband’s interest in the wife’s real estate (i.e. profits or rents) not liable for his debts</td>
<td>Wife’s real estate cannot be sold by husband without her written consent</td>
</tr>
<tr>
<td>Tennessee</td>
<td>Jan 10, 1850</td>
<td>Husband’s interest in the wife’s real estate (i.e. profits or rents) not liable for his debts</td>
<td>Husband cannot sell his interest is his wife’s real estate</td>
</tr>
<tr>
<td>Texas</td>
<td>–</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Virginia</td>
<td>–</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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), and Chused (1983). The text of the original acts can be found in Appendix B.
Table 2: Summary Statistics, Linked Data

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>SD</th>
<th>Min</th>
<th>Max</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Panel A. Sample Restrictions</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Husband &amp; wife born in south</td>
<td>0.88</td>
<td>0.32</td>
<td>0</td>
<td>1</td>
<td>50809</td>
</tr>
<tr>
<td>Household linkable to 1850 slave schedules</td>
<td>0.75</td>
<td>0.43</td>
<td>0</td>
<td>1</td>
<td>50809</td>
</tr>
<tr>
<td>Resident in marriage state in 1850</td>
<td>0.77</td>
<td>0.42</td>
<td>0</td>
<td>1</td>
<td>50809</td>
</tr>
<tr>
<td>Surname/birthplace matched to 1840</td>
<td>0.76</td>
<td>0.43</td>
<td>0</td>
<td>1</td>
<td>44949</td>
</tr>
<tr>
<td>Meets all above sample restrictions</td>
<td>0.39</td>
<td>0.49</td>
<td>0</td>
<td>1</td>
<td>50809</td>
</tr>
<tr>
<td><strong>Panel B. Sample Characteristics</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Husband’s age at marriage</td>
<td>26.99</td>
<td>8.82</td>
<td>15</td>
<td>91</td>
<td>19672</td>
</tr>
<tr>
<td>Wife’s age at marriage</td>
<td>21.86</td>
<td>6.73</td>
<td>13</td>
<td>78</td>
<td>19672</td>
</tr>
<tr>
<td>Husband literate</td>
<td>0.84</td>
<td>0.37</td>
<td>0</td>
<td>1</td>
<td>19610</td>
</tr>
<tr>
<td>Wife literate</td>
<td>0.78</td>
<td>0.41</td>
<td>0</td>
<td>1</td>
<td>19644</td>
</tr>
<tr>
<td>Total wealth, 1850</td>
<td>1477.11</td>
<td>4423.83</td>
<td>0</td>
<td>191847</td>
<td>19672</td>
</tr>
<tr>
<td>Fraction of wealth held in slaves</td>
<td>0.29</td>
<td>0.37</td>
<td>0</td>
<td>1</td>
<td>10980</td>
</tr>
<tr>
<td>Nonzero slave wealth, 1850</td>
<td>0.24</td>
<td>0.43</td>
<td>0</td>
<td>1</td>
<td>19672</td>
</tr>
<tr>
<td>Zero wealth in 1850</td>
<td>0.44</td>
<td>0.5</td>
<td>0</td>
<td>1</td>
<td>19672</td>
</tr>
<tr>
<td>Employed in agriculture</td>
<td>0.67</td>
<td>0.47</td>
<td>0</td>
<td>1</td>
<td>19672</td>
</tr>
<tr>
<td>Married after law change</td>
<td>0.19</td>
<td>0.39</td>
<td>0</td>
<td>1</td>
<td>19672</td>
</tr>
<tr>
<td>Resident in marriage county in 1850</td>
<td>0.71</td>
<td>0.45</td>
<td>0</td>
<td>1</td>
<td>19672</td>
</tr>
<tr>
<td>Groom’s 1840 log slave wealth</td>
<td>2.65</td>
<td>1.99</td>
<td>0</td>
<td>10.68</td>
<td>19672</td>
</tr>
<tr>
<td>Bride’s 1840 log slave wealth</td>
<td>2.69</td>
<td>1.79</td>
<td>0</td>
<td>11.17</td>
<td>19672</td>
</tr>
<tr>
<td>Groom’s - Bride’s 1840 log slave wealth</td>
<td>-0.04</td>
<td>2.42</td>
<td>-10.25</td>
<td>9.84</td>
<td>19672</td>
</tr>
</tbody>
</table>

Panel A documents what fraction of couples, for whom we linked the marriage and 1850 census records, satisfy the other sample restrictions we impose (see Section 4 for details). Panel B presents summary statistics for our final sample. Panel C compares mean characteristics of couples married before and after the passage of a property law. In the last two columns, we present coefficients and standard errors from a regression of LAW, on each characteristic (individually) and state and year of marriage fixed effects.
Table 3: Effect of Married Women’s Property Laws on 1850 Investment - OLS

<table>
<thead>
<tr>
<th>Dep. var.</th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
<th>(5)</th>
<th>(6)</th>
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</thead>
<tbody>
<tr>
<td>Post Law</td>
<td>-0.032</td>
<td>-0.029</td>
<td>-0.064</td>
<td>-0.062</td>
<td>-0.107</td>
<td>-0.104</td>
</tr>
<tr>
<td></td>
<td>(0.101)</td>
<td>(0.099)</td>
<td>(0.098)</td>
<td>(0.096)</td>
<td>(0.121)</td>
<td>(0.117)</td>
</tr>
<tr>
<td>Husband’s log(Wealth), 1840</td>
<td>0.176</td>
<td>0.179</td>
<td>0.177</td>
<td>0.177</td>
<td>0.177</td>
<td>0.177</td>
</tr>
<tr>
<td>× Post Law</td>
<td>(0.081)**</td>
<td>(0.091)**</td>
<td>(0.092)*</td>
<td>0.086**</td>
<td>(0.086)**</td>
<td>(0.086)**</td>
</tr>
<tr>
<td>Wife’s log(Wealth), 1840</td>
<td>-0.198</td>
<td>-0.178</td>
<td>-0.183</td>
<td>-0.183</td>
<td>-0.183</td>
<td>-0.183</td>
</tr>
<tr>
<td>× Post Law</td>
<td>(0.090)**</td>
<td>(0.086)**</td>
<td>(0.086)**</td>
<td>(0.086)**</td>
<td>(0.086)**</td>
<td>(0.086)**</td>
</tr>
<tr>
<td>[Husband’s log(W) - Wife’s log(W), 1840] × Post Law</td>
<td>0.236</td>
<td>0.227</td>
<td>0.227</td>
<td>0.227</td>
<td>0.227</td>
<td>0.227</td>
</tr>
<tr>
<td></td>
<td>(0.068)**</td>
<td>(0.068)**</td>
<td>(0.068)**</td>
<td>(0.068)**</td>
<td>(0.068)**</td>
<td>(0.069)**</td>
</tr>
<tr>
<td>Adj-R²</td>
<td>0.095</td>
<td>0.095</td>
<td>0.197</td>
<td>0.197</td>
<td>0.198</td>
<td>0.198</td>
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<tr>
<td>Obs</td>
<td>19672</td>
<td>19672</td>
<td>19672</td>
<td>19672</td>
<td>19672</td>
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</tbody>
</table>

OLS estimates. All regressions contain state and year of marriage fixed effects, husband’s and wife’s 1840 wealth, and interactions between premarital wealth variables and state and year of marriage fixed effects. Gross investment: value of household’s real estate and slave holdings in 1850 census, gross of debt. Dependent variable: log(1+ Gross investment). Husband’s/Wife’s 1840 wealth: average log slave wealth (log(# slaves ×377 + 1)) of individuals with the same surname as the husband and wife in their respective states of births in the 1840 census. Frequency names, bin FE: we calculate the relative prevalence of husband’s and wife’s family names per state. We summarize this information in 10 bins, where bin 1 includes the rarest family names, and bin 10 the most common ones. All (continuous) independent variables are normalized by their standard deviation; reported coefficients therefore indicate by what % gross investment changes in response to a one standard deviation increase in the right hand side variable. All interactions with the 1840 wealth variables are in deviations from the mean. The coefficient on Post Law therefore measures the effect of the passage of a Married Woman Property Act on a household with average wealth or average wealth difference. Standard errors (clustered at three levels: state × year-of-marriage, groom’s surname-birthplace, bride’s surname-birthplace) are reported in parentheses: * p < 0.10, ** p < 0.05, *** p < 0.01.
Table 4: Effect of Married Women’s Property Laws on 1850 Investment - Tobit

<table>
<thead>
<tr>
<th>Dep. var.</th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
<th>(5)</th>
<th>(6)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Post Law</td>
<td>0.016</td>
<td>0.024</td>
<td>-0.041</td>
<td>-0.035</td>
<td>-0.216</td>
<td>-0.205</td>
</tr>
<tr>
<td>(0.182)</td>
<td>(0.182)</td>
<td>(0.165)</td>
<td>(0.164)</td>
<td>(0.190)</td>
<td>(0.190)</td>
<td></td>
</tr>
<tr>
<td>[0.010]</td>
<td>[0.016]</td>
<td>[-0.027]</td>
<td>[-0.023]</td>
<td>[-0.141]</td>
<td>[-0.134]</td>
<td></td>
</tr>
<tr>
<td>Husband’s log(Wealth), 1840 × Post Law</td>
<td>0.281</td>
<td>0.287</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(0.137)**</td>
<td>(0.145)**</td>
<td>(0.147)*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>[0.181]</td>
<td>[0.187]</td>
<td>[0.183]</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wife’s log(Wealth), 1840 × Post Law</td>
<td>-0.428</td>
<td>-0.389</td>
<td>-0.398</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(0.161)**</td>
<td>(0.142)**</td>
<td>(0.145)**</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>[0.275]</td>
<td>[-0.254]</td>
<td>[-0.26]</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>[Husband’s log(W) - Wife’s log(W), 1840] × Post Law</td>
<td>0.440</td>
<td>0.422</td>
<td>0.422</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(0.112)**</td>
<td>(0.109)**</td>
<td>(0.110)**</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>[0.283]</td>
<td>[0.275]</td>
<td>[0.276]</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pseudo-$R^2$</td>
<td>0.021</td>
<td>0.021</td>
<td>0.047</td>
<td>0.047</td>
<td>0.047</td>
<td>0.047</td>
</tr>
<tr>
<td>Obs</td>
<td>19672</td>
<td>19672</td>
<td>19672</td>
<td>19672</td>
<td>19672</td>
<td>19672</td>
</tr>
<tr>
<td>Age at marriage FE</td>
<td>N</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Birthstate and literacy FE</td>
<td>N</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Frequency names, bin FE</td>
<td>N</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>State specific lin. time trend</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
</tr>
</tbody>
</table>

Tobit estimates. All regressions contain state and year of marriage fixed effects, husband’s and wife’s 1840 wealth, and interactions between premarital wealth variables and state and year of marriage fixed effects. Reported coefficients are marginal effects on latent dependent variable, with standard errors in parentheses. Marginal effects on censored dependent variable (at mean level of explanatory variables) are reported in square brackets. *Gross investment*: value of household’s real estate and slave holdings in 1850 census, gross of debt. *Husband’s/Wife’s 1840 wealth*: average log slave wealth (log(# slaves ×$377 + 1$)) of individuals with the same surname as the husband and wife in their respective states of births in the 1840 census. *Frequency names, bin FE*: we calculate the relative prevalence of husband’s and wife’s family names per state. We summarize this information in 10 bins, where bin 1 includes the rarest family names, and bin 10 the most common ones. All (continuous) independent variables are normalized by their standard deviation; reported coefficients therefore indicate by what % gross investment changes in response to a one standard deviation increase in the right hand side variable. All interactions with the 1840 wealth variables are in deviations from the mean. The coefficient on *Post Law* therefore measures the effect of the passage of a Married Woman Property Act on a household with average wealth or average wealth difference. Standard errors (clustered at the state × year-of-marriage level) are reported in parentheses: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. 

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Table 5: Effect of Married Women’s Property Law on 1850 Investment – IV Estimates

<table>
<thead>
<tr>
<th>Dep. var</th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>log(Gross investment), 1850</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Post Law</td>
<td>-0.104</td>
<td>-0.544</td>
<td>-0.533</td>
</tr>
<tr>
<td></td>
<td>(0.110)</td>
<td>(0.121)**</td>
<td>(0.119)**</td>
</tr>
<tr>
<td>[Husband’s log(W) - Wife’s log(W), 1840] × Post Law</td>
<td>0.227</td>
<td>0.126</td>
<td>0.117</td>
</tr>
<tr>
<td></td>
<td>(0.063)**</td>
<td>(0.069)*</td>
<td>(0.068)*</td>
</tr>
<tr>
<td>F (Post Law)</td>
<td>-</td>
<td>858.3</td>
<td>956.5</td>
</tr>
<tr>
<td>F (Interaction)</td>
<td>-</td>
<td>147.6</td>
<td>151.1</td>
</tr>
<tr>
<td>Partial $R^2$ (Post Law)</td>
<td>-</td>
<td>0.695</td>
<td>0.729</td>
</tr>
<tr>
<td>Partial $R^2$ (Interaction)</td>
<td>-</td>
<td>0.578</td>
<td>0.621</td>
</tr>
<tr>
<td>Obs</td>
<td>19,672</td>
<td>19,672</td>
<td>19,672</td>
</tr>
</tbody>
</table>

Instruments = protection in:
- Wife’s birth st., marriage yr. N Y Y
- Marriage st., yr. wife 22 N Y Y
- Husband’s birth st., marriage yr. N N Y
- Marriage st., yr. husband 27 N N Y

2SLS estimates. Column (1) repeats the OLS estimate from Table 3, Column (6). Remaining columns contain 2SLS estimates instrumenting for Post Law and [Husband’s log(W) - Wife’s log(W)] × Post Law using the instruments indicated in the table, and the instruments interacted with [Husband’s log(W) - Wife’s log(W)]. *Gross investment*: value of household’s real estate and slave holdings in 1850 census, gross of debt. Dependent variable: log(1 + Gross investment). *Husband’s/Wife’s 1840 wealth*: average log slave wealth (log(# slaves × 377 + 1)) of individuals with the same surname as the husband and wife in their respective states of births in the 1840 census. All regressions include the full set of controls (see Table 3, Column 6), with the following exceptions: (1) we omit state of birth fixed effects; (2) we omit controls for marriage year and we include linear and quadratic terms in the husband’s and wife’s age in 1850 instead of age fixed effects. All (continuous) independent variables are normalized by their standard deviation; reported coefficients therefore indicate by what % gross investment changes in response to a one standard deviation increase in the right hand side variable. All interactions with the 1840 wealth variables are in deviations from the mean. The coefficient on *Post Law* therefore measures the effect of the passage of a Married Woman Property Act on a household with an average wealth difference. Standard errors (clustered at the state × year-of-marriage level, or instrumented version thereof) are reported in parentheses: * p < 0.10, ** p < 0.05, *** p < 0.01.
Table 6: Changes in unobservable quality marital matches

<table>
<thead>
<tr>
<th>Dep. var</th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
<th>(5)</th>
<th>(6)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>= 1 if linked to 1850 census</td>
<td>= 1 if couple has a child</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Post Law</td>
<td>0.008 (0.002)***</td>
<td>0.008 (0.002)***</td>
<td>0.008 (0.002)***</td>
<td>-0.014 (0.006)**</td>
<td>-0.014 (0.007)**</td>
<td>-0.016 (0.010)</td>
</tr>
<tr>
<td>[Husband’s log(W) - Wife’s log(W), 1840] × Post Law</td>
<td>0.001 (0.003)</td>
<td>0.002 (0.003)</td>
<td>0.002 (0.003)</td>
<td>-0.017 (0.006)***</td>
<td>-0.017 (0.007)**</td>
<td>-0.017 (0.007)**</td>
</tr>
<tr>
<td>Adj-$R^2$</td>
<td>0.027</td>
<td>0.043</td>
<td>0.044</td>
<td>0.076</td>
<td>0.121</td>
<td>0.122</td>
</tr>
<tr>
<td>Obs</td>
<td>209,611</td>
<td>209,611</td>
<td>209,611</td>
<td>21,965</td>
<td>21,965</td>
<td>21,965</td>
</tr>
</tbody>
</table>

Linear probability models. The dependent variable captures if a couple was linked to the 1850 census (implying a smaller likelihood of being separated) or if a couple, conditional on being identified in the 1850 Census, had at least one child. All regressions contain state and year of marriage fixed effects, husband’s and wife’s 1840 wealth, and interactions between premarital wealth variables and state and year of marriage fixed effects. Husband’s/Wife’s 1840 wealth: average log slave wealth (log(# slaves × 377 + 1)) of individuals with the same surname as the husband and wife in their respective states of births in the 1840 census. In Columns (1)-(3), we use state of marriage since state of birth is not available for unlinked observations. Frequency names, bin FE: we calculate the relative prevalence of husband’s and wifes’ family names per state. We summarize this information in 10 bins, where bin 1 includes the rarest family names, and bin 10 the most common ones. All (continuous) independent variables are normalized by their standard deviation; reported coefficients therefore indicate the change in probability of being linked to the 1850 census or having a child in response to a one standard deviation increase in the right hand side variable. All interactions with the 1840 wealth variables are in deviations from the mean. The coefficient on Post Law therefore measures the effect of the passage of a Married Woman Property Act on a household with an average wealth difference. Standard errors (clustered at three levels: state × year-of-marriage, groom’s surname-birthplace, bride’s surname-birthplace) are reported in parentheses: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. 
## Table 7: Effect of Married Women’s Property Laws on 1850 Gross Investment - Changing Bequest Behavior

<table>
<thead>
<tr>
<th>Dep. var.</th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
<th>(5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Post Law</td>
<td>-0.041</td>
<td>-0.072</td>
<td>-0.097</td>
<td>-0.127</td>
<td>0.033</td>
</tr>
<tr>
<td></td>
<td>(0.102)</td>
<td>(0.100)</td>
<td>(0.127)</td>
<td>(0.111)</td>
<td>(0.113)</td>
</tr>
<tr>
<td>Husband’s log(Wealth), 1840</td>
<td>0.158</td>
<td>0.165</td>
<td>0.162</td>
<td>0.102</td>
<td>0.127</td>
</tr>
<tr>
<td>× Post Law</td>
<td>(0.082)*</td>
<td>(0.093)*</td>
<td>(0.094)*</td>
<td>(0.076)</td>
<td>(0.085)</td>
</tr>
<tr>
<td>Wife’s log(Wealth), 1840</td>
<td>-0.219</td>
<td>-0.197</td>
<td>-0.204</td>
<td>-0.109</td>
<td>0.003</td>
</tr>
<tr>
<td>× Post Law</td>
<td>(0.093)**</td>
<td>(0.090)**</td>
<td>(0.092)**</td>
<td>(0.071)</td>
<td>(0.087)</td>
</tr>
<tr>
<td>% Children male, 1840, wife</td>
<td>-0.033</td>
<td>-0.062</td>
<td>-0.062</td>
<td>-0.153</td>
<td>-0.151</td>
</tr>
<tr>
<td>× Wife’s log(Wealth)</td>
<td>(0.109)</td>
<td>(0.102)</td>
<td>(0.101)</td>
<td>(0.087)*</td>
<td>(0.092)*</td>
</tr>
<tr>
<td>... × ... × Post Law</td>
<td>0.117</td>
<td>0.090</td>
<td>0.087</td>
<td>(0.045)**</td>
<td>(0.049)*</td>
</tr>
<tr>
<td>% Children male, 1840, wife</td>
<td>-0.030</td>
<td>-0.013</td>
<td>-0.013</td>
<td>-0.030</td>
<td>-0.013</td>
</tr>
<tr>
<td>× Post Law</td>
<td>(0.076)</td>
<td>(0.075)</td>
<td>(0.076)</td>
<td>(0.076)</td>
<td>(0.076)</td>
</tr>
<tr>
<td>Adj-R² / Pseudo-R²</td>
<td>0.096</td>
<td>0.199</td>
<td>0.200</td>
<td>0.157</td>
<td>0.188</td>
</tr>
<tr>
<td>Obs</td>
<td>19541</td>
<td>19541</td>
<td>19541</td>
<td>27090</td>
<td>19672</td>
</tr>
</tbody>
</table>

| Age at marriage FE | N | Y | Y | Y | Y |
| Birthstate and literacy FE | N | Y | Y | Y | Y |
| Frequency names, bin FE | N | Y | Y | Y | Y |
| State specific lin. time trend | N | N | Y | Y | Y |

**OLS estimates. All regressions contain state and year of marriage fixed effects, husband’s and wife’s 1840 wealth, and interactions between all included 1840 variables and state and year of marriage fixed effects. Gross investment: value of household’s real estate and slave holdings in 1850 census, gross of debt. When estimating OLS the dependent variable is log(1 + Gross investment). Husband’s/Wife’s 1840 wealth: average log slave wealth (log(# slaves × 377 + 1)) of individuals with the same surname as the husband and wife in their respective states of births in the 1840 census. % Children male, 1840, wife: percentage of children that are male in households with the same surname as the wife in her state of birth in the 1840 census. Frequency names, bin FE: we calculate the relative prevalence of husband’s and wife’s family names per state. We summarize this information in 10 bins, where bin 1 includes the rarest family names, and bin 10 the most common ones. All (continuous) independent variables are normalized by their standard deviation; reported coefficients therefore indicate by what % gross investment changes in response to a one standard deviation increase in the right hand side variable. All interactions with the 1840 wealth variables are in deviations from the mean. The coefficient on Post Law therefore measures the effect of the passage of a Married Woman Property Act on a household with an average wealth difference. Standard errors (clustered at three levels: state × year-of-marriage, groom’s surname-birthplace, bride’s surname-birthplace) are reported in parentheses: * p < 0.10, ** p < 0.05, *** p < 0.01.**
Table 8: Effect of Married Women’s Property Laws on 1850 Gross Investment - Exemption levels and Macro Conditions

<table>
<thead>
<tr>
<th>Dep. var.</th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
<th>(5)</th>
<th>(6)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Post Law</td>
<td>-0.034</td>
<td>-0.068</td>
<td>-0.112</td>
<td>-0.005</td>
<td>-0.191</td>
<td>-0.036</td>
</tr>
<tr>
<td></td>
<td>(0.099)</td>
<td>(0.095)</td>
<td>(0.117)</td>
<td>(0.125)</td>
<td>(0.135)</td>
<td>(0.143)</td>
</tr>
<tr>
<td>[Husband’s log(W) - Wife’s log(W), 1840] \times Post Law</td>
<td>0.236</td>
<td>0.227</td>
<td>0.226</td>
<td>0.221</td>
<td>0.228</td>
<td>0.221</td>
</tr>
<tr>
<td></td>
<td>(0.068)**</td>
<td>(0.069)**</td>
<td>(0.069)**</td>
<td>(0.069)**</td>
<td>(0.073)**</td>
<td>(0.072)**</td>
</tr>
<tr>
<td>State exemption level</td>
<td>-0.001</td>
<td>-0.001</td>
<td>-0.002</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.000)**</td>
<td>(0.000)**</td>
<td>(0.000)**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>___ \times [Husband’s log(W) - Wife’s log(W), 1840]</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.000)</td>
<td>(0.000)</td>
<td>(0.000)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adj-(R^2)</td>
<td>0.095</td>
<td>0.198</td>
<td>0.198</td>
<td>0.196</td>
<td>0.199</td>
<td>0.197</td>
</tr>
<tr>
<td>Obs</td>
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<td>19672</td>
<td>19672</td>
<td>19372</td>
<td>19672</td>
<td>19372</td>
</tr>
<tr>
<td>Age at marriage FE</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Birthstate and literacy FE</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Frequency names, bin FE</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>State specific lin. time trend</td>
<td>N</td>
<td>N</td>
<td>Y</td>
<td>N</td>
<td>N</td>
<td>Y</td>
</tr>
<tr>
<td>1840 Cotton &amp; Slave Intensity \times Year FE</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
</tr>
<tr>
<td>Annual Cotton &amp; Slave Prices \times State FE</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
</tr>
</tbody>
</table>

OLS estimates. All regressions contain state and year of marriage fixed effects, husband’s and wife’s 1840 log wealth, and interactions between premarital wealth variables and state and year of marriage fixed effects. Gross investment: value of household’s real estate and slave holdings in 1850 census, gross of debt. The dependent variable is log (1+ Gross investment). Husband’s/Wife’s 1840 wealth: average log slave wealth (log(# slaves \times 377+1)) of individuals with the same surname as the husband and wife in their respective states of births in the 1840 census. State exemption level: $ amount exempt in case of insolvency. Cotton & slave prices: price per pound raw cotton; average price per slave; from HSUS. Cotton & slave intensity: pounds of cotton picked per white population in 1840, state level; number of slaves per white population, state level; from Haines & ICPSR Frequency names, bin FE: we calculate the relative prevalence of husband’s and wife’s family names per state. We summarize this information in 10 bins, where bin 1 includes the rarest family names, and bin 10 the most common ones. All (continuous) independent variables are normalized by their standard deviation; reported coefficients therefore indicate by what % gross investment changes in response to a one standard deviation increase in the right hand side variable. All interactions with the 1840 wealth variables are in deviations from the mean. The coefficient on Post Law therefore measures the effect of the passage of a Married Woman Property Act on a household with an average wealth difference. Standard errors (clustered at three levels: state \times year-of-marriage, groom’s surname-birthplace, bride’s surname-birthplace) are reported in parentheses: * \(p < 0.10\), ** \(p < 0.05\), *** \(p < 0.01\).