Appendices for Online Publication

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A Historical Appendix I: Credit in the Antebellum South

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A.1 Introduction

This appendix reviews the literature on credit in the antebellum South. The standard textbook on the history of the U.S. South by Cooper, Terrill and Childers (2017, 5th edition, p. 206) stresses the importance of credit:

Like most other businesses, southern agriculture required capital. Some agriculturalists, small farmers bent on self-sufficiency and the very wealthiest, might rarely need credit, but for most of them credit was just as essential as sunshine and rain.

The costs of planting a crop, marketing it, and supplying the physical needs of a slave force, to say nothing of acquiring more acres or slaves, required larger expenditures of money at one time than most agriculturalists had readily available. Thus, like most other business operators, southern farmers borrowed.

Though credit appears to have been indispensable for the functioning of southern agriculture, the formal banking sector was, by modern standards, underdeveloped. Rather, credit was extended through a decentralized network of different types of intermediaries. This review explains in some detail how this system worked. We first discuss how the secondary literature evaluates the importance of credit. We then explain the credit system in more detail, discussing the main agents involved, the importance of collateral, and the legal system that underpinned debt contracts. Finally, we discuss the introduction of Married Women’s Property Acts in the 1840s as a form of debtor protection.

A.2 Secondary literature on the importance of credit in the antebellum South

Contemporaries clearly understood the reliance of southern farmers and planters on credit. Frederick Law Olmstead observed that planters would run up high debts for the purchase of slaves. In 1857, a visitor to Macon, Georgia noted that “not one in fifteen, I am assured, is free of debt” (Woodman 1968, p. 135-6). One Alabama planter in the 1840s wrote: “What
a glorious business planting is, for we always hope the next crop will bring us out [of debt]” (quoted in Bodenhorn 2003, p. 220-1).

It is therefore not surprising that studies in both legal and economic history have emphasized the importance of credit for the economy of the antebellum South. Legal historian Peter Coleman (1999[1974], p. viii-ix), in his study on creditor rights in the U.S. between 1607 and 1900, stresses that credit was an important feature of the U.S. economy as a whole:

Since the beginnings of colonization most Americans have been borrowers and lenders. In one form or another – notes of hand, book credit, commercial paper, mortgages, land contracts – they borrowed to establish beachheads in the New World, to buy and clear land, to build and operate mills, to purchase slaves, to finance the sale of surplus products, and to buy household necessities.

This is echoed by the work of legal historian Edward Baleissen (2001, p. 26-7, 32), who, in his book on the short-lived bankruptcy code of 1841, writes that

The antebellum economy was structured as much around borrowed money and promises to pay as it was around the routes of rivers, roads, canals, and, by the 1840s, railroads. (…) The basic workings of antebellum capitalism ensured that hundreds and thousands of Americans would carry heavy loads of debt (…) Credit fueled the antebellum economy.

Tony Freyer (1984, p 54-5), in his study on the law and the antebellum Southern economy, argues that credit was as essential for the South as it was for the rest of the country. Moreover, all layers of society seem to have relied on credit:

As in the rest of the United States, credit was essential to the economic order of the antebellum South. The large planter’s participation in the world market depended upon credit channeled through the factor. The smaller, middle-class farmer’s place in the staple economy depended upon credit supplied by the storekeeper. And others of this small-farmer class, whose market orientation may have been marginal, also relied upon credit provided by the country store. Interestingly, even those engaged in subsistence economic activities apparently perceived
at times the necessity for exchanges using credit as indicated by the regular appearance of temporary wagon yards that storekeepers erected throughout remote areas of the South to carry on trade through the extension of small loans (…) Country storekeepers extended generous loans to their customers, often without interest for long periods. Estate inventories copied into county probate records reveal a similar pattern whereby wealthy planters lent money or sold goods on credit to small farmers, artisans, and the poor.

Economic historians also stress the importance of credit for the antebellum South’s economy. For example, Michael Tadman (1989, p. 53), in his book on the domestic slave trade refers to the South as “a land of credit and promises based on future crops”. Govan (1938, p. 164), in his early study on credit and banking in antebellum Georgia, writes that Credit was essential to the commercial agriculture that was the basis of the economy of Georgia and the South prior to the Civil War. Georgia planters using slave labor raised cotton and rice for an indefinite market in the North and Europe. They went into debt to purchase land and [slaves], received advances from factors and merchants for the necessary expenses of the growing season, and sold their crops to purchasers using funds supplied by the banks on the security of the shipments of the same cotton and rice.

Gavin Wright (2006, p. 69-70) in his study on slavery and American economic development, argues that credit markets in the South may actually have been more efficient than those in the North, in large part because of availability of slave collateral.

An important component of planter mobility was the capacity to establish and maintain credit relationships across long distances, arrangements ultimately based on the asset value and liquid character of slave property. (…) Slavery created a strong, regionally unified credit market within the South. In this sense southern plantations constituted a more advanced and financially sophisticated form of agriculture than their family farm counterparts in the North. It is not surprising that many studies confirm the existence of effective credit-market channels in the slave South.
Based on a detailed study of court records in Natchez, Mississippi (an important commercial hub at the time), Elbra David (2011, p. 239) also concludes that credit markets were effective in channeling savings to borrowers in need of credit. She emphasizes that these credit transactions were informal, that is not intermediated by a formal banking sector, but directly negotiated between borrower and lender:

From a very early stage of its development, the Natchez district developed local financial markets that efficiently allocated the investment capital that was necessary for the operation and expansion of the slave plantation system. While the financial instruments and arrangements that allocated debt and credit were informal and relied upon trust among agents, it is clear that credit flowed freely between regional borrowers and lenders.

Historian Bertrand Wyatt-Brown (1982, p. 345), in his prize-winning book on the culture of the antebellum South, argues that credit relationships were deeply ingrained in Southern culture:

In a cash- and credit-poor economy, ordinary indebtedness was not only unavoidable; it was a means to cement long-standing social connections. In fact, it could be said that the gentry ranks, even more than the yeomanry, were meshed together through intertwined promissory notes, indentures, and other forms of financial entanglements (...). It would not do to turn down a friend’s request for a loan or a signature to stand liable for someone else, a favored kinsman or boon companion. Repayments were, of course, expected, but sometimes, as court records attest, notes were carried for months, even years beyond the date due.

Howard Bodenhorn (2003, p. 223), an economic historian specializing in credit markets in the antebellum period, argues very strongly for the importance of credit in the South.

Southerners grew rice, tobacco, cotton, and sugar cane for sale in far-removed markets, and moving goods to market required credit. They needed credit to purchase land. They needed credit to purchase slaves. They needed credit to
finance land improvements. They needed credit to buy clothes and food for themselves and their slaves. They needed credit to pay for seed and fertilizer and tools for working their crops. In short, credit was as much the lifeblood of southern agriculture as it was of eastern manufacturing and widespread mercantile activities.

This view is consistent with recent historical research on the link between slavery and capitalism. Summarizing this literature, historians Sven Beckert and Seth Rockman (2016, p. 16) argue that

An enormous river of credit flowed from plantation headwaters. Slaves were purchased on credit and then further collateralized in pursuit of additional financing. At the same time, the agricultural commodities that slaves produced – or were anticipated to produce in a coming season – underwrote local, regional, and interregional networks of credit.

A.3 Credit intermediaries

The largest group of free white households in the Antebellum were the so-called yeoman farmers. These were relatively small farmers who owned a plot of land, and maybe a few slaves. They mainly grew cotton, tobacco and foodstuffs. Their share in aggregate crop production was significant. The current scholarship suggests that most of them were integrated in the wider market economy; only very few of them lived in autarky and relied on subsistence farming. Just as their richer planter neighbors, they relied on credit to fund their businesses (Atherton [1949], p. 9-10, Freyer [1984], p 54-55, Cooper, Terrill and Childers [2017], p. 206-7). Atherton, in his history of antebellum country stores, argues that the “difference between planter and farmer reliance on [credit] was largely one of degree rather than of kind” (Atherton [1949], 12). The yeoman farmers had direct access to credit through local store keepers and plantation owners. Through these agents, yeoman farmers were connected to a wider system of credit intermediation. Figure A1 provides a stylized overview. In this section we discuss the different agents that made up this credit system and describe the different ways in which credit was made available.
A.3.1 Local merchants: the country stores

Local merchants, often organized in the form of country stores, were the key middlemen between farmers and the wider economy in the antebellum South. They provided a host of essential services. First, they acted as retail agents, selling dry goods, groceries and tools. Second, they bought the farmers’ crop and marketed it. Atherton (1949) argues that all these transactions involved credit. Country stores typically sold plantation supplies on open account. In addition, they would advance money on the farmer’s crops, which could be used to fund other purchases (Atherton [1949], Brennecke [2016], p. 5). In his study on merchants in antebellum New Orleans, Marler (2013, p. 91-92) gives the example of Samuel Henarie, storeowner in Alexandria, Louisiana, who sold carpeting requirements, cradles, saddles, scythes, bagging, rope, twine and low-grade fabrics for slave clothing; all on credit for “punctual customers”. At the same time, Henarie played a role in local cotton trade by advancing cash on cotton crops. In more remote areas, the role of country store was taking up by travelling merchants (Atherton [1949], p. 48, Woodman [1968], p. 86). According to legal historian Freyer (1984, p 54-55), these travelling merchants also provided credit.

Atherton (1949, p. 52-3) argues that credit provision was “a major economic function of country stores” that was essential for farmers. In his study on antebellum rural Missouri, Bremer (2011, p. 91), argues that

by offering credit in exchange for farm goods, merchants allowed the development of a commercial economy in regions where banks or currency were absent or rare. They opened markets for farm crops and accelerated the commercial development of areas from Kentucky to Missouri to Mississippi. Storekeepers helped the western nineteenth-century economy operate because they had access to capital and credit.

This view is echoed by much of the literature. Sparks (1932, p. 35, 39), in his history of agricultural credit in the U.S., sees the credit extended by country stores as a crucial factor for the development of American agriculture. In her book on yeoman farmers in South Carolina, McCurry (1995, p. 99-100) writes that “for most rural and small town merchants, about the only way to do business with farmers and planters was on credit.” Similarly, Hahn (1982,
p. 35), in his book on yeomanry in Georgia, states that in rural Georgia “farmers usually purchased supplies on a year’s credit and rarely settled their accounts with cash” (Hahn 1982, p. 35). Marler (2013, p. 89-92) argues that outside of the city, country stores were essential in the provision of credit to smaller farmers. Based on reports from the Mercantile Agency, the most important credit rating agency of the period, he argues that the provision of credit was “ubiquitous”. In fact, most retail sales occurred on credit. Estimates vary, but it seems that only 20% of all transactions were in cash, the remainder were settled on open accounts (Atherton [1949], 52-54, McCurry [1995], p. 99-100, Bremer [2011], p. 94-5, Marler [2013], p. 92-94).

Country stores lent out money that was borrowed from other credit intermediaries (Atherton [1949], p. 15). They obtained credit from wholesalers in the Northeast who supplied the planting supplies and merchants in the larger cities, the so-called “factors”, who would purchase the crops. As such, country stores, like commercial banks today, were credit intermediaries. This was a natural role to play. The marketing of crops gave stores access to the underlying revenues, and prevented other agents from seizing the crops before the stores could settle their own claims (Atherton 1949, p. 15, 106). In addition, the marketing of crops provided stores with superior information. Commercial banks mainly did business in the larger cities and generally did not have branches in rural areas. Even if they did, they would not extend credit to yeoman farmers directly (Marler [2013], p. 104).

According to Atherton (1949, p. 101), farmers usually had long standing accounts with country stores. They appear to have been actively engaged in improving their credit standing. According to McCurry (1995, p. 102-4), yeomen farmers sought to establish stable relations with local merchants by selling cotton to the same men who extended them credit. They tried to diversify and transact with multiple merchants “to secure good will and good credit for the year ahead”.

Formally, the loans that county stores provided on open account ran for 12-15 months. Farmers were expected to settle their open accounts once a year when their crops were sold (Atherton [1949], p. 52-53, 113, Hahn [1982], p. 35, McCurry [1995], p. 99-100, Olegario [2006], p. 30). However, by the time of repayment, farmers had usually contracted new credit. Farmers’ short term loans with the country stores therefore amounted to long-lasting
debt positions. Byrne (2006, p. 128-9), in his book on merchant culture in the South, provides evidence that suggests that country stores only insisted on the closing of open accounts after significant shocks, such as the start of the Civil War.

Loans were not always repaid when they came due. Country stores often renewed them for another year (Atherton 1949, p. 56, 106, 120, McCurry 1995, p. 103, Byrne 2006, p. 45, Olegario 2006, p. 30). There could be multiple reasons for doing so. First of all, there might be adverse weather and price conditions. If the storekeeper had sufficient resources, he could decide to “carry all reliable customers for a second year” (Atherton 1949, p. 120). Second, by offering liberal credit conditions, country stores might try convince borrowers to start selling their crops through them, thereby securing existing loans (Atherton 1949, p. 106).

Open accounts were secured by “the operation of the law”. There were no formal mortgages. As long as the country store could prove the existence of a loan, farmers’ assets could be seized to satisfy loan repayment (Marler [2013], p. 91-92). If a loan was rolled over into the next fiscal year, the country store usually asked for additional security, usually in the form of a promissory note. After guaranteeing (endorsing) it, they could use it as collateral to obtain credit from their wholesalers or factors (Atherton 1949, p. 56). If this happened, notes were sometimes explicitly collateralized with a mortgage on the borrower’s assets. Atherton (1949, p. 127) gives an example of such a mortgage on “3 cows, 15 sheep, 20 geese, 47 hogs, one clock, one loom, one bed, and all other furniture”. Slaves and land also served as collateral.

For many country stores, the provision of credit was more than an activity to support retail sales the marketing of crops; like commercial banks today, they actively lent out money and relied on the income made on the interest rate spread (Atherton [1949], p. 54-55). According to Byrne (2006, p. 47), the income from prompt income payments was the “lifeblood” of the country store. Marler (2013, p. 94, 104), gives the example of Jemplet & Richard who, according to the local reporter for the Mercantile Agency, were “very good collectors” who allowed debts to “lie in the hands of their customers and charging them 15 percent for it.” Other examples are Jacob Lemann and John Dominque who “loaned money on interest”. Apart from credit provision, the country stores performed other banking
services, such as (1) accepting and exchanging banknotes, (2) discounting private forms of money (the so-called “shaving” of individuals” promissory notes) and (3) the arrangement of cross-geographic remittances (Atherton [1949], p. 54-55, Marler [2013], p. 104).

Atherton (1949, p. 113) argues that the credit provision from the country stores was quite “liberal”. As a result, debt collection could be hard and time intensive (Marler 2013, p. 94-95). Olegario (2006, p. 30), in her history of U.S. credit markets, documents that store owners often placed advertisements in the newspaper threatening legal action. One such advertisement stated that to meet their own debt payments, the store

would be compelled to place the notes and unsettled accounts of those indebted to us in the hands of an officer for collection. Many of the debts are of long standing and payment has been frequently requested.

As credit intermediaries, country stores were typically highly levered. According to Byrne (2006, p. 25-28), “credit and debt concerns plagued the everyday working lives of southern merchants.” They managed to borrow the necessary funds based on their reputation for sound business. The key function of credit rating agencies like the Mercantile Agency was to collect relevant information on how their business was conducted. Personal assets of store owners were a key concern in those reports as well, emphasizing the importance of collateral or borrowers’ net-worth. To enhance their credit standing and pool capital, most country stores were partnerships, where each partner had unlimited liability (Freyer [1984, p. 56], Byrne [2006], p. 31). Sometimes, country stores managed to attract outside equity by forming partnerships with rich merchants in New Orleans, New York and even English merchants with offices in the U.S. (Marler [2013], p. 109-110).

The high leverage of the country stores could sometimes bring them into serious trouble. Olegario (2006, p. 29) writes that

The overriding problem for merchants who relied on large amounts of credit was liquidity, the ability to pay bills when they came due. It was not enough simply to have assets; merchants had to have cash, notes, and bills of exchange readily at hand. Some merchants found themselves in the paradoxical position of having
a substantial net worth, primarily in real estate and payments due to them from customers, but with no cash or negotiable paper to meet their own bills.

The records of the Mercantile Agency hold many examples of storekeepers who were so indebted that they became “embarrassed” and unable to meet their obligations. According to Marler (2013, p. 108-9),

Antebellum commercial journals issued regular warnings about mercantile insolvencies and how to avoid them. (…) Despite his criticisms of southern merchants, Daniel Hundley nevertheless sympathized with the “unutterable grief that lies behind that smiling mask” of the “Honest Storekeeper” who struggled to make collections and pay off his creditors. “No wonder his head is prematurely gray,” he declared. “Wait until we have been similarly tried!”

The Panics of 1837 and 1839 were a case in point. Many country store merchants defaulted on their obligations and became insolvent. Nevertheless, after a few years, the system of country store credit recovered and continued in much the same way as it had done before (Atherton 1949, p. 60, 120-1, Byrne [2006], p. 47).

**A.3.2 Rich and middling plantation owners**

In addition to the country stores, yeoman farmers also obtained credit from their planter neighbors. The South featured a number of large plantations, and their owners were often involved in credit provision. This practice seems to go back to colonial times (Gray and Thompson [1933], p. 410). Local credit networks appear to have been as important as the country stores for the provision of credit; nearly everyone participated. According to Martin (2015, p. 47), a specialist in antebellum credit markets, “Virginia courthouse records show that people of the most exalted and the most humble economic circumstances participated in local credit networks.”

Large plantation owners often performed the function of country stores, providing farm inputs on credit and advancing money on their crops (Marler [2013], p. 116, McCurry [1995], p. 108-11). Planters had contacts with city merchants who they could call on to
market crops, obtain farm inputs and advance credit. In addition, local planters often served as guarantors or sureties (endorsers) for credits extended by third parties such as city merchants. If the borrower defaulted, lenders would have a claim against the endorser. As such, farmers borrowed a wealthy neighbor’s reputation to obtain access to outside credit (Kilbourne [1995], p. 3-4, 73, McCurry [1995], p. 108, Blackmar [2012], p. 95). Such endorsements could be especially relevant in the purchase of slaves in the local market.¹ These transactions usually took place on credit. The buyer of a slave had to make a down payment of about one third, with the balance due in one to three years. The seller obtained a formal mortgage on the slaves, and, as additional security, demanded the endorsement of local citizens, often well-to-do local planters (Tadman [1989], p. 59, 137, Kilbourne [1995], p. 55). Beecher Stowe (1853) provides a number examples of advertisements announcing slave sales on credit.

Most importantly, rich planters provided direct credit to farmers that could be used to purchase slaves and land; a function that country stores did not provide. Slave purchases in the local market were funded with loans that, at some point, had to be repaid. Planters could provide to make the necessary payments (Martin 2010, p. 860-2). In addition to the local market, farmers could turn to inter-regional slave traders who brought in slaves from other states, usually the old tobacco states in the East. Slave traders also sold slaves on credit, but the majority of transactions appear to have been in cash (Gray and Thompson [1933], p. 713, Tadman [1989], p. 104).² Typically, farmers did not have the cash needed for the purchase and had to borrow. Local planters often stepped in, sometimes arranging a loan from their own city merchant, sometimes providing credit from their own pockets (Tadman [1989], p. 103, Martin [2010]). In addition to slaves, planters also provided credit for the purchase of land. Planters in more established areas of the South, especially those from old plantation families, were some of the most important sellers of land. In general, they sold the land on credit, with final payment usually three to five years in the future.

¹ Slave auctions by local probate courts and sheriffs to settle the estates of insolvent or deceased persons were an important part of this market (Russell [1997], p. 482).
² Tadman (1989, p. 52-5, 104-5) and Calomiris and Pritchett (2016, Appendix) give more details about loans obtained from slave traders. Down payments from slave traders varied between a third and a half, with some loans requiring none at all. Maturities were short, a year on average. Slave traders depended on banks and private capitalists to fund their operations.
although contracts could run up to twenty years. Kilbourne (1995, p. 14, 17, 50-54, 56), in his seminal study of slavery and credit markets in antebellum Louisiana, estimates that 40 to 50% of all land in East Feliciana parish was encumbered this way.

Many studies have emphasized the importance of local credit networks for funding long term investment (Sparks [1932], p. 301, Gray and Thompson [1933], Green [1972], p. 8, 32, 57, David [2011], Beckert and Rockman [2016], p. 17). Gray and Thompson (1933, p. 713), in their study of southern agriculture, argue that

A considerable part of the credit in the South was furnished in one way and another by planters themselves. Plantations were bought on long payments and slaves were bought on credit, mortgages on land and slaves being given as security. The practice of individual endorsement was prevalent, and many a planter was bankrupted by endorsing the notes of friends.

Based on an a large scale investigation of mortgage contracts in Louisiana, South Carolina and Virginia, Martin (2010) concludes that wealthy planters extended significant amounts of credit to local farmers. Drawing on similar sources, Kilbourne (1995, p. 73) also finds that local loans were an important source of credit. In some cases, rich planters left their money under the management of their factors, who would then lend it out in their name (Woodman [1968], p. 43).

A large share of the credit extended by wealthy planters existed of entries in account books, promissory notes or personal bonds and was not formally collateralized. These loans were periodically settled, but often stayed on the books for years. Blackmar (2012), p. 94-96), in her study of debt claims in probate courts, shows that some loans were only settled after the death of a borrower. Smith (1958, p. 209-210), in his history of antebellum South Carolina, argues that the probate records reveal that there was a “substantial volume” of such private loans. As we will discuss later in this appendix, mortgages were predominantly used by creditors to secure loans when borrowers got into financial trouble and to obtain seniority vis-à-vis other lenders.

Rich planters funded a large share of their loans with their own capital (Sparks [1932], p. 174-175). David (2011, p. 230-3), in her study on credit in antebellum Natchez, Mississippi
gives the example of Benjamin Farrar. Farrar had married into the rich Ellis family, who had been one the first settlers of the area and who had accumulated a significant amount of wealth. Farrar operated a plantation, but the largest share of his household’s wealth had been lent out to smaller planters and farmers in his network. The total value of credit he extended was almost three times as large as the value of his plantation.

Planters of more moderate means, the so-called “middling” planters, often relied on external funds to make loans. Many of them were both borrower and lender at the same time and effectively intermediated credit (Kilbourne [1995], p. 92-99, Byrne [2006], p. 26-28). Baptist (2012, p. 89) gives the example of John Richardson, a planter based in New Orleans, who “had been both creditor and debtor to dozens of parties” and who failed in the wake of the Panic of 1837 as creditors started to liquidate his assets, while Richardson tried to desperately collect on the credit he had extended. David (2011) provides the example of Jonathan Thompson who extended credit to a larger number of local farmers in his network. Most of it was based in the form of promissory notes, book accounts, drafts, and personal bonds and was not formally collateralized. To fund these operations, he mainly borrowed from those higher up the financial ladder, including the aforementioned Farrar. According to David (2011, p. 230-1)

As a middling planter, Thompson turned to the local market time and again to access credit and was himself a source of funds and resources for others in his circle. (…) Thus, credit “trickled down” to those at the lower end of the financial ladder.

As a result, Thompson was highly levered. While his plantation was worth $36,352, he owed debts amounting to $166,007, a large fraction of which had been lent out to others.

A.3.3 Wholesalers and manufacturers

In summary, yeoman farmers obtained credit from local planters and country stores. Local planters extended credit to enable farmers to buy more land and slaves. Country stores ensured that farmers could borrow all necessary working capital, which meant that they
could direct all of their savings towards capital investment. In the form of land and slaves, farmers’ net wealth could be pledged as collateral, facilitating overall access to credit.

In turn, country stores and planters relied on other intermediaries to fund their credit positions. In the next subsections we briefly discuss these higher steps of the credit ladder. We start with wholesalers and manufacturers.

Country stores obtained a large share of their credit from wholesalers and manufacturers who sold them their products. These were usually located in the Northeast of the U.S. but also in cities in mid-West, like St. Louis and Cincinatti, and England (Olegario [2006], p. 25, Marler [2013], p. 111). According to Olegario (2006, p. 27), “in most of the South and West, mercantile credit accounted for more business capital than did banks”. She argues that in the absence of large banks, “mercantile credit filled the gap, allowing owners of thinly capitalized village and country stores to grasp opportunities whenever and wherever they happened to arise.”

In many cases, the supply chain from producer to customer consisted of multiple intermediaries, with each agent relying on credit from higher up the chain (Brennecke 2016, p. 5-7). Olegario (2006, p. 25-6) writes that

American importers, jobbers, commission merchants, factors, brokers, and auctioneers sprang up to service the growing inland trade. They brought together sellers and buyers, sorted goods into lots that were economical for both, arranged for the transportation and storing of goods, facilitated payments—and advanced credit.

In other cases, the link between manufacturers and farmers and planters was quite direct. Rockman (2011, p. 28), in his study on the involvement of Northern firms in the plantation South, provides examples of a Connecticut manufacturing firm selling directly to planters and farmers. All these transactions were relatively small. Nevertheless most of it was on credit; in some cases the firm was forced to track down its clients to press them for payment.

Olegario (2006, p. 25, 26) argues that there was significant competition between wholesalers and manufacturers. As a result, lending standards appear to have been quite loose

In this competitive atmosphere, suppliers extended credit to encourage larger purchases
and cultivate what they hoped would become a lasting relationship. Northeastern suppliers felt the competition from new inland rivals so keenly that many relaxed their standards and began extending larger amounts of credit.

Atherton (1946, p. 551-2, 1949, p. 60, 113, 114-5, 118-9) also makes reference to the “liberality” of credit extended by wholesalers and manufacturers. According to him, this was one of the key ways in which capital was exported from the North to the South. The amount of credit extended to country stores was often substantial. The Mercantile Agency noted that “jobbers” (merchants standing between the wholesalers and the country stores) often advanced to country stores goods worth “three or four or even five times the amount of [their] capital”. Some of them even went up to “ten, twelve, or fifteen times”. In 1858, the Mercantile Agency estimated that, on the eve of the Panic of 1857, country stores in the U.S. as a whole owed jobbers, wholesalers and manufacturers a grand total of $2.3 billion. This is equivalent to about 50% of GDP (Olegario 2006, p. 26, HSUS 2000).

The loans wholesalers and manufacturers extended had a maturity of 12 to 15 months. Interest was only charged after an initial period of 6 to 10 months, though cash sales did command a discount (Atherton [1946], p. 553-4, Atherton [1949], p. 56, Woodman [1968], p. 146, 159, Olegario [2006], p. 26-7). Many country stores had open accounts with wholesalers that would be rolled over from year to year. Atherton (1949, p. 119) provides evidence suggesting that accounts were only closed out after significant shocks such as the start of Civil War.

The loans generally lacked formal security, but creditors had full recourse on the store owners’ assets (Rockman 2011, p. 21, 27). In case a country store was unable to repay a loan, the manufacturer or wholesaler would employ a local attorney or collection agent to file suit for the recovery of the debt. As a first step, they would try to obtain a secured note, such as a mortgage on the store owner’s slaves or real estate, and the debt would be rolled over. If the store owner proved unable to repay, the store owner’s assets would be liquidated. This would also involve debt collectors pursuing the country stores’ clients who were behind on their debt payments. (Atherton [1949], p. 129, Kilbourne [1995], p. 22-23, Marler [2013], p. 92). Given that the initial loans were unsecured, wholesalers and manufacturers were often junior to other creditors. Atherton (1946, p. 537-8, 550) gives two examples where
Southern country stores from Alabama and South Carolina defaulted on their obligations and settled for 20 or 40 cents on the dollars with their wholesalers, while other creditors received better settlements.

Wholesalers and manufacturers were actively collecting information on the country stores. Initially, there were two ways to do this: ask for information from local attorneys (who might later be employed to file suit against defaulting debtors) or send employees to collect information. The Panics of 1837 and 1839 spurred systematic methods of obtaining information and some firms started specializing in credit reporting. Lewis Tappan and Benjamin Douglas, for example, started using a local network of lawyers to obtain detailed information about storekeepers. This firm would later grow into the Mercantile Agency (Atherton [1946], p. 539-555, Marler [2013], p. 98).

Local correspondents gave detailed information about a storekeeper’s business and his (or her) personal assets. Olegario (2006, p. 87, 89) quotes the following list from Mercantile Agency’s instructions:

- Age; length of time in business; success, prospects; moral character and habits;
- capacity; industry; amount of business; capital invested; entire means (noting
  Real Estate, and encumbrances, if any); home credit, and indebtedness there;
  with any peculiarity of position that may affect responsibility.

Additional information included the amount of merchandise on hand, estimates of net worth, and the amount of credit that could safely be extended (for specific examples, see Atherton [1946], p. 546-8).

Wholesalers and manufacturers did not extend the credit directly from their own pockets. In many cases, they requested promissory notes from their clients, with they then endorsed and discounted at other financial intermediaries, such as banks or bill brokers (Baleissen [2001], p. 30, 45-6, Brennecke [2016], p. 5).

A.3.4 Factors

In his classic study, Woodman (1968) argues that factors played a central role in the Antebellum South’s credit system; they provided essential services for both country store and
planter. One of their key functions was the marketing of crops that planters and country stores supplied, usually advancing money against future revenues. Country stores often had long term relationships with particular factors and relied on their credit to fund their operations. This augmented the credit they obtained from wholesalers and manufacturers (Sparks [1932], p. 23, Atherton 1949, p. 15, 108-10, Woodman 1968, p. 77-8, Marler 2013, p. 85). Factors were even more essential to planters. Not only did they market their crops, they also provided plantation supplies on credit, functions country stores performed for smaller farmers (Roeder 1958, p. 118, Woodman 1968, p. 34-8). According to Bodenhorn (2003, p. 224),

The factor stood at the heart of southern commerce and finance, where agricultural produce, largely cotton, served as the basis of an immense credit system. Although it was the farmers’ property and produce that secured the credit, it was the factor who organized, directed, and allocated it. Banks extended credit to factors; factors then extended it to farmers and planters. It was not only at harvest time that factors provided credit to them. Planters often needed funds long before they had any cotton to sell, and factors provided it. Factors procured and forwarded provisions, implements, and other supplies secured by advances on crops not yet harvested.

The factor’s central position in the South’s credit system can be explained by their access to detailed information. According to Killick (1977, p. 191) in his study on the credit provision of international merchants, factors

were in a much better position to give large advances and credits to planters in order to secure consignments because they were near their clients, knew their reputation, and, if necessary, could foreclose on the land and run it with reasonable efficiency.

Outside financiers, such as banks, felt more comfortable lending to factors than to planters directly. According to Green (1972, p. 29-30), in his study on Louisiana banking, factors bore the initial impact of delinquent or defaulted debts thus reducing the banker’s risks. Only if several debtors defaulted simultaneously would the factor be unable to pay the bank.
Apart from supplying credit to facilitate the production and shipment of crops, factors also provided extensive credits to fund long term investments. Bodenhorn (2003, p. 225) sees the system as a “disguised land banking system” where factors effectively supplied long term credit to planters to expand their plantation. The credit extended to planters and country stores routinely exceeded the annual revenue from the crops they supplied or their annual expenses (Sparks 1932, p. 34, Atherton 1949, p. 108-10, Woodman 1968, p. 34-8). Kilbourne (1995, p. 45-6) gives an example of a planter with a $13,000 credit facility, secured with mortgage on land and slaves, that approximately equaled four times the annual planting expenses. Such credit facilities were usually meant for the long term improvement of the plantation; that is, the purchase of land and slaves (Atherton [1949], p. 7-8, Woodman [1968], p. 34-8, Green [1972], p. 11, Kilbourne [1995], p. 31). Woodman (1968, p. 136) and Kilbourne (1995, p. 20, 39) provide a number of examples where planters used their factors’ credit to purchase slaves. Tadman (1989, p. 103) argues that this practice was widespread. The literature suggests that planters never fully repaid such debts as they valued the expansion of their plantation above debt repayment (Green 1972, p. 29, Bodenhorn 2003, p. 225). After a year of poor crop yields planters often became “chronically indebted” (Sparks [1932], p. 34).

Factors did not lend out their own capital. Rather, they acted as intermediaries, using the credit facilities they themselves had at their command. They borrowed from the state chartered banks, international merchants who bought the cotton crop they marketed, and other merchants who supplied them with slaves or merchandise (Govan [1938], p. 178-9, Woodman [1968], p. 40-1, Green [1972], p. 11, Kilbourne 1995, p. 30). According to Woodman (1968, p. 154), in his seminal study on antebellum factors,

It was precisely because the factor was able to tap capital resources that he was so important in the credit structure of the South. Through him, capital resources of the South, the North and Europe were funneled into financing and marketing the cotton crop.

These loans were not backed by any particular crop or produce shipment, but by notes and claims on planters and country stores (Kilbourne 1995, p. 4). Factors also borrowed
against their “good name and reputation, as well as [their] tangible assets” (Woodman [1968], p. 114, 161-3). Factors also had access to the money rich planters in their community had deposited with them (Kilbourne [1995], p. 36-37 and p. 45).

Factors were actively engaged in maturity transformation, borrowing short term, lending long term. Though loans to planters and country stores formally had short maturities, they were routinely rolled over, effectively constituting long term credit that could run for many years (Sparks 1932, p. 3, Woodman [1968], p. 41-2, 56). When this happened, borrowers were asked to sign promissory notes coming due when the next harvest would be sold. According to Woodman (1968, p. 116-7)

Often termed accommodation paper, these promissory notes could be – and sometimes were – transformed into long-term agricultural loans by means of periodic renewals or through the acceptance of a second note to pay the first. This was a typical means whereby a factor carried his planter customer over a year without tying up large sums of his own money.

Among other things, the formal short term maturity of these loans allowed factors to adjust the interest rate to the “short-term cost of money” (Woodman [1968], p. 162, Kilbourne [1995], p. 4, 17, 37-8). Kilbourne (1995, p. 45) argues that “in the last decades of the antebellum period, the long-term debt market eclipsed the short-term market.” At the same time, factors mainly borrowed short term from outside investors (Woodman [1968], p. 163). Kilbourne (1995, p. 40-42) reports a factor’s balance sheet that looks much like that of a banker, with many bills receivable and open accounts on its asset side and short term debt on its liability side.

Apart from keeping loans to planters and country stores on their own balance sheet, factors would also endorse loans that outside investors such as state chartered banks extended to their clients. From the perspective of the factor these loans were contingent liabilities; whenever a client failed to pay up, the factor would be on the hook. Factors would often “negotiate” these loans themselves, deciding which loans to keep on their balance sheets and which loans to sell on outside investors (Woodman [1968], p. 154-5, Green [1972], p. 10-2, Schweikart [1987], p. 208-9, Kilbourne [1995], p. 30, Bodenhorn [2003], p. 277). According
Through his endorsements and acceptances the factor was able to open credit resources all over the world to the planter. His endorsements usually meant that the local banks would discount the planter’s note, and the bank’s added endorsement would mean it, in turn, could get funds from banks in the North and abroad. Thus the world’s money markets, like the world’s commodity markets, became available to the cotton planter through his factor.

The Panics of 1837 and 1839 and the subsequent depression pushed many factors into insolvency. However, after 1843, the factorage system recovered (Woodman [1968], p. 163). Due to political obstacles, the growth of the formal banking system was restrained. Factors took over some of the state chartered banks’ earlier functions and this strengthened their central role in the Souths’ credit system (Roeder [1958], p. 118, Kilbourne [1995], p. 36-37, Schermerhorn [2015], p. 173).

A.3.5 State chartered commercial banks

The state chartered banks played a supplementary role in the Antebellum South’s credit system. These banks had official charters from the state governments and had the privilege to print banknotes and issue shares with limited liability. They avoided direct loans to farmers and planters, but their credit facilities did play an important role in the South’s credit system, primarily through their funding of factors (Gray and Thompson [1933], p. 712-3).

The Panic of 1837 had been preceded by a large expansion of state chartered banks in the South, many of whom actively lent to plantations, funding the purchase of land and slaves (Schweikart 1987, Roberts 2012). After cotton and slave prices fell, and many planters defaulted on their loans, many of these banks became insolvent. Afterwards, state governments became reluctant to charter new banks and existing banks operated much more conservatively, focusing on creating a stable money supply in the form of banknotes and deposits backed by high quality commercial paper. These were predominantly short term loans to merchants in support of trade and commerce (Sparks [1932], p. 293 – 304,

Despite these restrictions, the state chartered banks still played an important role in the South’s credit system. The provision of short term commercial paper freed up other sources of capital that could be used for more direct investment into the South’s agriculture (Sparks 1932, p. 288). In addition, some banks did extend credit directly to planters, although this was probably of limited quantitative importance (Woodman [1968], 103-4, 113, Green [1972], p. 16, Kilbourne [1995], p. 45). Most importantly, the commercial paper the banks discounted was an important source of funding for factors and other merchants; funding that was passed on to farmers and planters (Smith [1958], p. 197, Ransom and Sutch [2001], p. 106-7). This could happen in two ways. First, the factors could borrow directly from banks and use the funds to lend out to their clients. Second, the indebted planter could issue a promissory note that would be endorsed by his factor. The note would then be discounted at the bank, providing the planter with credit. Killick (1977, p. 178) describes how factorage houses made good use of local bank branches to fund their positions.

At least in theory, this system insured banks against defaults of planters and farmers; with factors acting as an additional layer of security. To reduce the risk of default even further, banks sometimes required at least two endorsements. According to Govan (1938, p. 178-9), factors “made arrangements amongst themselves for the mutual exchange of endorsements on their country paper” or would arrange for outsiders to endorse the notes for a two and half percent commission. Kilbourne (1995, p. 24) also makes reference to such “mutual accommodations”.

Some have argued that factors and commercial banks together formed a complex, though efficient, system of intermediation that allowed the banks’ resources to flow to the farmers and planters in most need of credit. Factors possessed superior information and banks preferred to cooperate with them rather than setting up their own branch network. Bodenhorn (2003, p. 226-7) writes

Banks loaned to factors at relatively low costs because, in so doing, they economized on information costs, gathering and analyzing information on a relatively
small number of factors and merchants. Factors and merchants, on the other hand, were in a better position to gather and process information about the credit histories and economic prospects of only those planters with whom they repeatedly contracted. (…) Factors knew the size of the planters’ farms; which crops, and in what proportions, each planter planted; how many animals and slaves a planter owned; and each planter’s recent production, debts, and entrepreneurial skills. Because the local money lender (i.e., the factor) had a long-standing relationship with a bank, much like the local relationship between a farmer and the factor, banks exploited their comparative advantage in mobilizing large blocks of funds while factors exploited their comparative advantage in gathering information (which reduced transaction costs) and evaluating it (lowering risk premia). (…) By offering his own note to the bank instead of the planter’s the factor insulated the banker from delinquencies and defaults, which reduced risk premia. Through the intermediation of factors, bankers actually indirectly financed more long-term loans to planters than they would have otherwise. It was the factor’s risk-pooling activities that enabled the entire process (…).

Woodman (1968, p. 114, 118) and Schweikart (1987, p. 201) also argue that factors fulfilled essential intermediation services that channeled banks’ resources to the whole economy.

Although the credit extended by banks formally had a short maturity, it was routinely renewed or new loans were issued to cover old liabilities, transforming it into long term lending (Sparks [1932], p. 288, 293 – 304, Woodman [1968], p. 166-7, Kilbourne [1995], p. 34). As a result, the perceived safety of the banks’ lending portfolios often proved illusory. If a shock hit the agricultural sector, banks were heavily exposed. In the end, all their lending was supported by the crops the planters produced and holdings of land and slaves.

The state chartered banks are the only intermediaries for which lending data is available. Compared to the rest of the U.S., Southern banks appear to have been important in quantitative terms. In Figure A2 we plot the loans and discounts per (free) household in five U.S. regions: New England, Middle Atlantic (which includes New York), North Central, and two Southern areas: South Atlantic and South Central. The figure documents a dramatic
increase in credit in the runup to the Panics of 1837 and 1839, especially in South Central region. By the end of the 1830s, chartered banks in South Central had about twice as much loans on their books (in proportion to the free population) than the rest of the country. After the bank failures of the Panic of 1839, bank credit dropped precipitously (Schweikart 1987). Nevertheless, the amount of loans and discounts extended by state chartered banks in the South was comparable to that in the North. After 1843, the extension of credit in both southern regions was higher than in Middle Atlantic and North Central. The South was only surpassed by New England, the most developed region of the country at that point. This is remarkable, as the growth of state chartered banks in the South was restricted after 1839 (Bodenhorn 2003). This underscores the importance of credit for the southern economy.

A.3.6 Private banks

Apart from the official state chartered banks, there were a large number of other agents, loosely referred to as private banks, who extended credit in much the same way. These private banks were predominantly merchants who had branched out into financial transactions. The key difference with chartered banks was that they could not issue bank notes, lacked limited liability for shareholders (most were unlimited liability partnerships), and were much smaller (Green [1972], p. 15-6). It was natural for merchants to move into banking as they had become accustomed to providing financial services for their clients, such as discounting notes, accepting deposits, and dealing in both foreign and domestic exchange. For some merchants such activities became large and profitable enough that they dropped much of their mercantile activities altogether (Bodenhorn [1997], p. 519-21).

Private bankers grew in importance during the 1840s. After the Panics of 1837 and 1839, state governments were reluctant to charter new banks. Private banks sprang up to fill the void (Roeder [1958], p. 120-121, Green [1972], p. 26-7, Schweikart [1986], p. 132-3, [1987], Bodenhorn [2000], p. 184). According to Schweikart (1986, p. 132-3, 1987, p. 218-9), “the South had a large reservoir of banking capital that has gone unnoticed in the past” and “banking services existed in many areas where it has often been assumed that they did not”, for example in rural Arkansas. There were at least 250 such private banks in the South, but likely more (Bodenhorn [1997], p. 521). According to Killick (1977, p. 192), the recovery of
the South’s financial system after 1843 was much more pronounced than the official numbers suggest due to growth in private banking.

Just like chartered banks, private banks specialized in the discounting of promissory notes issued or endorsed by factors. This was funded by the deposits they took in and their own capital (Woodman [1968], p. 122-5). Woodman argues that private bankers were often more willing to extend long term credit than chartered banks. In many cases, notes were endorsed and passed on to rich capitalists in the Northeast and England (Bodenhorn [2000], p. 168, 182). Certain private banks specialized in the placing of promissory notes, often with the backing of English merchant firms or banks located in New York (Killick 1977, p. 193). According to Bodenhorn (2000, p. 162, 178-81) these “bill brokers” had widespread networks and contributed importantly to the integration of American money markets. He notes that before the Civil War, interest rates on prime commercial paper displayed little difference between the North and South. Similarly, Kilbourne (1995, p. 27) argues that there was a deep and developed market for prime promissory notes, “that was only vaguely connected to the marketing of agricultural commodities”. Due to its decentralized nature, the size of this market is unknown however.

As an example, Bodenhorn (1997) discusses the case of Thomas Branch and Sons, private banker located in Petersburg, Virginia. Branch and Sons had been a mercantile house that was drawn into banking after 1843 when the state government restricted the chartering of new banks. Broadly speaking, the bank followed the same lending policies as the larger banks, discounting formally short term promissory notes. It specialized in a particular niche of customers who did not have direct access to the larger chartered banks of the state: young commercial upstarts with limited wealth. They provided an important link in the chain of financial intermediation, placing a significant fraction of the promissory notes they had discounted with state chartered banks and international merchants. By adding their endorsements, they facilitated the flow of credit to their clients.

A.3.7 International capital

The Antebellum South, especially the most recently settled states in South Central, were capital importers (Bodenhorn 2000, p. 14). According to Woodman (1968, p. 175)
Southern wealth was invested predominantly in land and slaves and the section lacked the liquid capital resources adequate for its credit needs.

As a result, the South came to rely on foreign capital. In colonial times, it had mainly been British merchants who had supplied funds to the U.S. South (Gray and Thompson [1933]). Sparks (1932, p. 25-27) documents that foreign merchants extended credit through their open accounts. Loans could run for three to five years and often amounted to three times the borrowers’ annual production. In the 19th century, as the North of the U.S. developed and New York became an important financial center in its own right, a significant amount of funding started to flow from the North. At the same time, British capital remained important (Woodman [1968], p. 160-1, Green [1972], p. 8-9, Ransom [2005], p. 47, Byrne [2006], p. 34).

Credit from England and the North was extended through long strings of intermediation. Factors in the South, but also slave traders and Northern manufacturers and wholesalers relied on large, often international merchants for their credit needs (Woodman [1968], p. 159-69, Killick [1974b], p. 509, Schermerhorn 2015, p. 174). Through complicated merchant networks, the promissory notes evidencing the indebtedness of the Southern economy ended up on the balance sheets of the final lenders: rich capitalists and private banks in England and large commercial banks based in the North of the U.S.


there was a long chain of credit stretching from the manufacturers, brokers, and merchants in England, through merchants in New York, down to cotton buyers, factors, and planters in the southern states.

They key mechanism though which this operated were so-called exchange operations. International merchants such Alexander Brown and Sons and Bolton, Ogden and Co. bought short term promissory notes from local factors. Kilbourne (1995, p. 4) argues that many of such loans were not backed by any particular shipments of cotton, but were often extended on the reputation (and personal assets) of local factors. In turn, the international merchants
endorsed the promissory notes and placed them with private bankers and rich individuals in London and Liverpool.

Banks in the U.S. North also played an important role in the provision of credit. By 1850, New York had overtaken New Orleans as the most important financial center for the South (Marler 2013, p. 48). Schweikart (1987, p. 213-7) and Bodenhorn (2000, p. 200-1, 2009) describe how southern merchants and private banks had credit lines in the North that they could rely on for credit. Large banks from the North also had offices in the South that facilitated exchange operations. There was a strong legal framework in the U.S. that allowed for the transferability of credit claims across state borders and this spurred financial integration (Freyer [1981]).

As a result, many in the North had credit exposure to the South. In the words of Balleisen (2001, p. 31) the American financial system consisted of “chains of credit (...) linking the fates of New York City hardware dealers and Jamestown, Alabama, storekeepers.” If someone in the chain defaulted, everyone would feel it. After the Panics of 1837 and 1839, many Northern creditors ended up seizing southern collateral, including slaves. The most famous example is that of the Philadelphia based Second Bank of the United States, with a number of abolitionist on its board, ending up with a large number of slaves on its balance sheet. In 1840, Northern abolitionist Joshua Leavitt wrote that (quoted in Rothman 2016, p. 138)

> Ask any man of business in our cities where his capital is gone, and where his irrecoverable debts are, and he will point to the South. (...) And behind every one of these stands another class, who have sold goods, or lent money, or given their endorsements to others that have trusted their all at the South, and now cannot pay. And behind these another class, and another, and another, until there is hardly a remote hamlet in the free States that has not been directly or indirectly drained of its available capital by the Southern Debt.

**A.3.8 Volume of credit**

In the previous sections, we have discussed the different intermediaries involved in the U.S. South’s financial sector. How large was the flow of credit from these intermediaries to the
yeoman farmers? With the exception of the state chartered commercial banks (that only formed a small part of the overall system), there are no detailed statistics to answer this question. However, it is possible to come up with estimates for other parts of the financial system. In particular, there is some information about the flow of credit from wholesalers and manufacturers to the country stores that, in turn, was made available to the yeoman farmers. Figure A1 presents these estimates in the form of stylized balance sheets. The figure’s caption provides a detailed description of the sources.


The 1840 census provides information about the number of country stores and the amount of capital invested (Atherton [1949], p. 41). This amounts to about $100 per free southern household. The country stores borrowed significant sums of money from wholesalers and manufacturers. According to contemporary estimates from the Mercantile Agency (confirmed by Marler [2013]) this amounts to about $14,500 per store, which translates into $320 per free southern household. This implies that country stores could lend out at least $420 per free household. This is a conservative estimate as it omits all credit made available by the factors in the form of advances on cotton and other crops.

2. Banks and factors.

Figure A2 shows that in 1850, southern banks lent out approximately $100 per free household. This money predominantly went to the factors. The 1840 census provides information about the number of factors and the amount of capital invested. This amounts to about $40 per free southern household. This implies that factors could lend out at least $140 per free household. This is a conservative estimate as it omits all money made available by international merchants and private banks, arguably factors’ most important sources of credit. For simplicity, Figure A1 assumes that the $140 flowed to yeoman farmers through the country stores, but this credit could have also have been intermediated by rich planters.

3. Other sources of credit.

So far we have documented $560 per free southern household that could have been
made available to yeoman farmers. This number omits important sources of credit. Apart from the aforementioned international merchants and private bankers, there is no information about the credit made available by rich planters. According to research by Kilbourne (1995), Martin (2010, 2013) and David (2011) this was the most important source of credit for yeoman farmers. This suggests that we are only capturing a small fraction of total available credit.

For the purpose of this paper it is important to know how the amount of available credit relates to the value of fixed asset holdings (real estate and slaves). According to the 1850 census, this adds up to approximately $2,000 per free southern household (this includes real estate and slaves owned by a small elite of rich plantation owners and likely overstates fixed asset holdings by yeoman farmers). Our estimate of available credit therefore amounts to about 28% of fixed asset holdings. Because we miss important sources of credit, the actual ratio of credit to fixed assets was likely much higher.

A.4 Collateral

All credit extended in the South was based on the production of crops like cotton. This provided the revenue to repay the loans (Kilbourne [1995], p. 12; Marler [2013], p. 94). Nevertheless, creditors often demanded collateral in the form of “fixed” assets, such as land and slaves, before they were willing to lend. In this section, we discuss why collateral was essential for the allocation of credit and discuss the different forms of collateral used. The term “collateral” refers to the presence of fixed assets that can be seized in case of default, not necessarily to a formal record, such as a mortgage, securing a particular loan with a particular asset. In the next section, we argue that creditors had full recourse; they could seize all the borrower’s assets in satisfaction of a debt. Many loans, therefore, were based on collateral, but were not formally secured by a mortgage.

A.4.1 The economics of collateral

The key risk faced by Southern creditors was that planters and farmers would try to evade their obligations to creditors. The underlying source of revenue, the crops in the field, could
not be pledged as collateral. A farmer or planter could simply sell it to a third party, take the proceeds and walk away. Once sold, a creditor had no way to prove legal title to, say, a particular bale of cotton and all claims would be moot (Woodman 1968, p. 181). Atherton (1949, p. 13, 121) mentions complaints of store owners whose clients had defaulted on their debt and had moved away to the frontier (Texas, in the many cases). The law in most states did allow for “crop liens”, but these only meant that when someone had taken physical possession of a crop to market it, he (or she) had a first lien on the revenues. However, this lien only covered the credit that had been extended for the purchase of planting supplies, not any other loans (Gray and Thompson [1933], p. 713, Woodman [1968], p. 62-63).

Because of the significant risk of absconding, creditors generally provided loans on the basis of collateral, most importantly land and slaves, but also livestock, furniture, tools, and the like (Martin [2010], p. 830, 847). The growing crops in the fields provided the means to repay a loan; the collateral provided the security (Woodman [1968], p. 40-41). The threat that creditors could seize essential assets made borrowers think twice about defaulting on their debts. Moreover, by relying on land and slaves, the amount of credit extended was proportional to a farmer’s or planter’s production capacity (Kilbourne [1995], p. 45). Credit contracts were usually over-collateralized so that even if the assets had to be sold at a loss, the creditor could still recoup the loan principal (Martin [2010], p. 822, Kilbourne [1995], p. 50).

It seems that the allocation of credit crucially depended on the availability of collateral. Green (1972, p. 32) reports that most credit flowed to the larger planters, who “owned most of the valuable fields and slaves that were preferred as loan collateral”. According to Jaynes (1986, p. 40), in his study on the South’s economy before and after the Civil War, creditors “based the extent of loans upon easily obtainable information concerning the value of the borrowers’ land and slaves.” The evidence in Marler (2013) suggests that storeowners often owned more land and slaves than was needed for the running of their business; it is possible that this helped them alleviate collateral constraints. The importance of collateral is demonstrated by the fact that the agents for the Mercantile Agency kept track of asset holdings as a basis for possible credit extension (Rockman 2011, p. 25).
A.4.2 Forms of collateral

For the U.S. as a whole, land and other forms of real estate were the prime form of collateral (Friedman [2005], p. 200, Levy [2012], p. 42, 49). According to both Sparks (1932, p. 7) and Blackmar (2012, p. 102-8), real estate formed the backbone of U.S. credit markets. Though somewhat less important than slaves, real estate was also an important form of collateral in the antebellum South. Based on a study of mortgage contracts in Virginia, South Carolina and Louisiana, Martin (2010, p. 830, 847, 2016, p. 110) concludes that real estate was especially important in regions on the eastern seaboard where the land had been improved and was more valuable. David (2011, p. 238) gives the example of a middling planter in Natchez, Mississippi, who, in the 1820s, only used land to secure his notes. Kilbourne (1995, p. 14, 17, 50-56) reports that 40 to 50% of land in East Feliciana Parish, Louisiana was explicitly encumbered. In addition to land, town houses and plots were also important. Lebsock (1984, p. 126) gives the example of Jane C. Oliver, a widow of some wealth, who in the early 1850s bought 14 town lots and had houses built. To finance the project, she borrowed extensively. Bodenhorn (1997, p. 537) mentions she also obtained loans from private bankers Thomas Branch and Sons. These loans were informally collateralized with the town lots and her plantation and slaves. Kilbourne (1995, p. 60) gives examples of mortgages on town lots in Clinton and Jackson, Louisiana. Debtors could usually borrow against half the value of real estate (Sparks [1932], p. 96, Levy [2012], p. 42, 49, Ferrie and Bleakley [2013], p. 34-35).

Even more important than real estate were slaves (Kilbourne [1995], Murphy [2017]). First and foremost, slaves were the most valuable form of wealth in the South and about one in four free households owned at least one slave body (Wright 2006, p. 62). This made it a natural form of collateral. According to Rockman (2011, p. 28)

A capitalized labor force did not merely provide low-cost labor, but stored wealth that could readily be converted to cash; thus, slaves served as the basis of local, regional, and national networks of credit.

Second, slaves were deemed to be more liquid than other assets like real estate. Slaves could be moved and employed in other activities and could be rented out to other farmers or
planters. Moreover, the secondary market for slaves was national rather than local, ensuring a broad market place and a price that did not fluctuate with local economic conditions (Kilbourne [1995], p. 5, Martin [2004], Wright [2006], p. 6, Rockman [2011], p. 25). In case of default, slaves were usually the first property to be sold. Rockman (2011, p. 29) mentions that one Quaker confessed that his business with the South

sometimes led to the necessity of placing his claims in the hand of an attorney for collection; to accomplish which he had no doubt that slaves were sold, as they were a species of property most convenient for seizure under an execution.

Ransom (2005, p. 43) argues that “credit markets were more than willing to take slaves as collateral against a loan taken out by a would-be planter”. Similarly, Beckert and Rockman (2016, p. 17) and Martin (2016, p. 110) argue that small farmers and planters could purchase additional land and slaves on the collateral of slaves they already had in possession. Martin (2016, p. 108) argues that slave collateral was most important on the frontier, because land there was largely unimproved. Gozalez, Marshall and Naidu (2016) argue that free whites in Maryland between 1860 and 1863 were more likely to start a new (mercantile) business if they owned slaves. Purchasers of slaves could usually borrow against two thirds of the value of slaves (Kilbourne [1995], p. 55, Tadman [1989], p. 137).

The importance of slave collateral in the South is illustrated by well-known books published in the era. In his autobiography *Twelve Years a Slave*, Samuel Northup (1853, p. 105-106) describes how he himself became collateral for a loan.

William Ford unfortunately became embarrassed in his pecuniary affairs. A heavy judgment was rendered against him in consequence of his having become security for his brother, Franklin Ford, residing on Red River, above Alexandria, and who had failed to meet his liabilities. He was also indebted to John M. Tibeats to a considerable amount in consideration of his services in building the mills on Indian Creek, and also a weaving-house, corn-mill and other erections on the plantation at Bayou Boeuf, not yet completed. It was therefore necessary, in order to meet these demands, to dispose of eighteen slaves, myself among the number. (. . . ) At the time of my sale to Tibeats, the price agreed to be given
for me being more than the debt, Ford took a chattel mortgage of four hundred dollars.

The slave trader who had initially abducted Northup from the North eventually became ‘embarrassed’ himself in 1842, with a debt load of $187,000 far exceeding his assets of $138,000. Creditors would keep pursuing him until the beginning of the Civil War (Schermerhorn 2015, p. 201).

In Harriet Beecher Stowe’s fictional *Uncle Tom’s Cabin*, credit also plays an important role. The story starts after Mr. Shelby (Uncle Tom’s original owner) “had speculated largely and quite loosely—had involved himself deeply, and his notes to a large amount had come into the hands of Haley” (Beecher Stowe 1852, p. 6). As a result, he had to surrender two slaves to the creditor:

Haley has come into possession of a mortgage, which, if I don’t clear off with him directly, will take everything before it. I have raked, and scraped, and borrowed, and all but begged—and the price of these two was needed to make up the balance, and I had to give them up.

A year after *Uncle Tom’s Cabin* came out, Beecher Stowe published a book with “the original facts and documents upon which the story is founded” that includes many references to the use of slaves as collateral in credit transactions. For example, the book contains a letter from Charleston, South Carolina 1852 that states that “the character of the slave-dealer, the bankrupt owner in Kentucky, and the New Orleans merchant, are simple everyday occurrences in these parts” (Beecher Stowe 1853, p. 150. Other examples are on pages 140, 273, 369, 375, 405, 484).

The importance of slave bodies as collateral is underscored by the impact of the Civil War. When slavery was abolished, an important form of pledgable wealth had been removed. According to much of the existing literature, in particular Coleman (1974, p. 239), Jaynes (1986) and Kilbourne (1995), this led to a dramatic reduction in credit. For example, Byrne (2006) reports of a South Carolina merchant writing a pleading letter to his New York City wholesaler arguing that “the 17 slaves he lost with emancipation would have been enough to pay his outstanding prewar debts”. According to Jaynes (1986, p. 31)
The collateral of planters decreased by the value of their slaves. This destroyed the asset base of the antebellum credit system (...) The uncompensated loss of slave wealth, coupled with the depreciated value of other property, all but eliminated this insurance collateral. Even without the related collapse of southern banking, the postbellum credit system could not equal the antebellum system.

In response, states introduced the crop lien system (Coleman [1974], p. 240, Kilbourne [1995], p. 49, 131-3). Under this system creditors obtained an automatic lien on the crops in the fields. According to Woodman (1968, p. 296) “by 1870 every southern state had legalized the contractual rights of a lender to attach a lien upon the crops to agricultural borrowers.” Nevertheless, such liens often proved ineffective as borrowers could still sell the crop to an innocent third party and abscond. According to Kilbourne (1995, p. 158)

The reality was that anyone who loaned on a crop pledge was making an “unsecured” loan. Everyone expected collections to be made, but until the growing crop was harvested, the debts were worthless. (...) Before the war, bad harvests and low prices did not necessarily portend ruin – inconvenience, yes, but not ruin. After the war, there was little except cotton with which to collateralize the debts inherited from years of poor harvests and low prices. The credit system was dependent on cotton to an extent never dreamed of before the war.

A.5 Credit and the law

The South had robust legal system that protected creditor rights (Brophy 2016, p. 263-4). In this section, we provide a detailed overview of this system. We first argue that virtually every individual had unlimited liability and creditors had full recourse to debtors’ assets. This gave creditors a strong legal position. We then discuss the role of two important financial instruments: mortgages and accommodation paper. Finally, we provide more details about the process of debt collection.
A.5.1 Liability and recourse

Credit transactions in the antebellum South were characterized by unlimited liability on part of the borrower. If an individual contracted a personal loan, he (or she) would always be fully liable. As is the case today, individuals could try to avoid liability by forming particular legal entities, but the possibilities were limited and generally not available to farmers and planters. The most dominant legal form in the South, mainly used by country stores and merchants, was the ordinary partnership, under which each partner's liability was full and several (Warren 1929, p. 25, Kilbourne [1995], p. 26, Brennecke [2016], p. 6). There were extra-ordinary partnerships under which liability could have been limited. However, until the beginning of the 20th century these did not work well. First, one could start a limited partnership, where limited partners enjoyed limited liability, but until a Federal law in 1916 there was significant uncertainty about whether this would be upheld in court (Hamill 1999, p. 174-5). Second, one could start a joint-stock company, with tradeable shares and legal separation of ownership and control. Even for these entities, limited liability was not ensured. Creditors had to explicitly allow for this (Warren 1929, p. 367-8). There is no evidence that planters and farmers in the antebellum South organized themselves this way. Third, one could start a business trust, where all power would be vested in a trustee. This could only be done in states with a strong tradition in equity law. The trust’s beneficiaries might enjoy limited liability, but even in 1929 there was still significant legal uncertainty about whether the courts would enforce this or not (Warren 1929, p. 385). Finally, agents could seek a corporate charter. However, these were generally not available in the South before 1850 and even afterwards access to them was restricted (Hilt 2015).

Whenever creditors held claims against the estate of a debtor, they had full recourse. That is, they could seize all assets in the possession of the debtor, independent of whether a loan had been formally collateralized with particular assets. According to Priest (2006, p. 428-9), in her study of creditor rights in U.S. in the 18th and 19th centuries, full recourse was well established in the U.S. after the Debt Recovery Act of 1732, which stipulated that, just like any form or movable property, “Houses, Lands, Negroes, and other Hereditaments and real Estates” were to be liable for ”all just Debts, Duties and Demands, of what Nature
or Kind so ever”. This meant that all unsecured creditors had a claim on all forms of property. The act also established that, after the death of a debtor, creditors were to be repaid before the heirs. This system remained in place until well into the 19th century. After Independence, most state legislatures passed similar legislation protecting creditor’s rights “without substantial modification”, often strengthening the creditor-friendly language (Priest 2006, p. 440-1). Generally, movable property was sold first, land second. Slaves were a category in between (Blackmar 2012, p. 94, 97).

Today, debtors sometimes have the option to obtain so-called non-recourse loans that stipulate that creditors can only seize the collateral that is explicitly pledged in a loan contract. The laws that make this possible were only passed in the 1930s and were not part of the legal system before (Hughes 1997, p. 125).

Because of full recourse, many loans in the South were not formally secured. Rockman (2011) argues that credit extended by Northern wholesalers and manufacturers had no formal security. Similarly, Marler (2013, p. 91-92) documents that loans made by country stores were not formally collateralized. Woodman (1968, p. 7) argues that the loans made by factors also had no formal collateral, but that a factor, by extending credit, had an automatic lien on his client’s property.

There are numerous examples of unsecured creditors seizing debtors’ assets in the antebellum South. Rockman (2011) gives the example of a Northern manufacturer seizing the property of Southern debtors in satisfaction of unsecured loans. Killick (1977, p. 174, 186-7, 190) describes how Alexander Brown and Sons became owners of entire Southern plantations through foreclosures that had resulted from the extension of unsecured debt to Southern factors and their planter clients. According to Killick, “nearly every British house with connections in the South in the 1830s, if its records survive at all, has similar information in its archives.”

In the South, slaves were an important form of collateral. Wright (2006, p. 7) argues that, in legal terms, slaves could be sold as easily as any other asset. Nevertheless, one might think that it would be difficult to seize slaves in case of default as they are mobile and their owner could attempt to hide them. Though there are examples of debtors fleeing creditors with their slaves in tow, in practice, creditors were usually successful in foreclosing on slave property.
(Martin [2010], p. 822, Murphy [2017], p. 7-10). Most states had stringent attachment laws on the books that allowed creditors to seize slaves from debtors who might try to leave the state (Holcombe 1848). Atherton (1946, p. 543) describes how creditors actively used these laws to seize slaves. Each year, slaves based in Natchez, Mississippi would cross the river to Concordia, Louisiana, for Christmas break. Creditors would take this opportunity to seize slaves from indebted planters under the provision of the Mississippi attachment laws. Smith (1958, p. 197), in his economic history of antebellum South Carolina, documents that the state legislature believed that “agricultural loans based on real estate and slaves (. . .) were safer than commercial loans because the property was visible and could not be removed without detection.”

Full recourse to the debtor’s assets did not always imply repayment of the loan: there could be other creditors with claims that were senior (Murphy [2017], p. 3). Factors, for example, had a preferential position and were first in line for “the payment of their expenses, commissions, and advances, and for the general balance due them” (Balleisen [2001], p. 92, Brennecke [2016], p. 6). This could generate significant legal conflict. Balleisen (2001, p. 81-82) describes that the creditor who was the first to file, also had the first lien on the property. Sometimes, for opportunistic reasons, debtors favored particular creditors at the detriment of other (Balleisen [2001], p. 86-88, Freyer [1979], p. 58-9, Freyer [1984], p. 56-8). One way to solve the underlying coordination issue was to appoint a third party who would arrange for the liquidation of the insolvent estate and the distribution of the revenues, but creditors could not always agree how to implement this (Balleisen [2001], p. 89, Brennecke [2016], p. 6). Russell (1996, p. 358-9), in his study of creditors’ court activity in antebellum South Carolina, argues that most appellate court case were between creditors fighting over who had the most senior claim, rather than between debtor and creditor.

A.5.2 Mortgages

One important financial instrument that was used in the South was the mortgage. Its operation was somewhat different from its modern counterpart; we describe this in more detail.

At the time, a mortgage did not represent a credit transaction in itself. Rather, it
was a legal document, often recorded in the county clerk’s office, formally stating that a creditor had a preferential claim on particular property. If the creditor provided evidence of indebtedness, he (or she) could use the mortgage as a means of getting ownership of the assets to ensure repayment (Kilbourne [1995]).

Because of full recourse, many long term loan arrangements did not involve a mortgage (Martin 2010, p. 828-9). In case of default, creditors could simply get a court order and let the local sheriff seize the debtor’s assets. According to Kilbourne (1995, p. 73) “formally collateralized transactions represented only a minor percentage of all credit transactions”. Other loans were “collateralized by the operation of law without written or recorded instruments, except for bills of exchange, drafts, or a merchant’s book entry of debits and credits”. Rockman (2011, p. 28) writes:

Slaves did not have to be collateralized in formal mortgages to provide a degree of credit-worthiness to their owners. (…) Recent studies of slave sales have drawn out this point, noting the preponderance of transactions initiated under the operation of the law, usually on the courthouse steps and usually occasioned by foreclosures on debts.

David (2011, p. 233), gives the example of middling planter Jonathan Thompson who had extended $66,130 in credit to 42 people; only one claim of $6,500 had been secured with a mortgage.

Kilbourne (1995) argues that a mortgage was an instrument to secure existing credit arrangements, rather than a financial contract to fund the purchase of a particular asset (as they are today). Generally what would happen is that a creditor lent out money on an open account or through some other unsecured credit instrument. This money might be spent on land and slaves or could be used to repay prior debts. At some point, the lender might press for the recording of a formal mortgage. For example, John McKneely had an

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3In Alabama, Kentucky, Louisiana, South Carolina and Virginia there was no formal obligation to record a mortgage in the county clerk’s office. As a long as a third party knew of a mortgage, even if it was not recorded, the mortgage was valid. Louisiana Supreme Court Justice Spofford in 1857, ruling for the majority in Johnson v. Bloodworth, argued that a lender, who accepted a mortgage from “a naked possessor without a recorded title” and was later superseded by another creditor, “has only himself to blame” (Morris [1984], p. 155-6).
open account with J.W. Burbridge & Co that allowed him to run up debts with the firm totaling $18,500. As a guarantee, McKneely pledged a mortgage on his 1000 acre estate and 50 slaves (Kilbourne [1995], p. 70) Alternatively, someone would endorse a debtor’s liabilities and would require a mortgage on a particular property to secure the endorsement. For example, Benjamin Kendrick, one of the wealthiest individuals in East Feliciana Parish, Louisiana, had endorsed a number of loans for John G. Perry in 1835. To protect Kendrick against a possible default, Perry provided him with a mortgage on a number of slaves he had recently purchased (Kilbourne [1995], p. 62). Once a mortgage was recorded, it would both secure existing debts as well as any future loans. It would run for ten years with a possible extension of another ten (Kilbourne [1995], p. 13, 29, 56, Murphy 2017, p. 5-6). Recording a mortgage did not change the existing debt contract: if the collateral was sold and there was a deficiency, the borrower would still be liable (Martin [2015], p. 43).

The empirical evidence confirms that mortgages covered a borrower’s entire estate, rather than a particular asset. Kilbourne (1995) gives detailed conditions of 16 mortgages. We link these with the 1850 census. This information is in Table A1. It appears that, in those cases for which the information is available, mortgages covered most of the slaves in the possession of the borrower. It was less common for mortgages to cover land. This is likely the result of the fact that 40 to 50% of land in Louisiana seems to have been encumbered with a mortgage from the original seller (Kilbourne [1995], p. 14, 17, 50-56). The average loan-to-value ratio on the mortgages in Table A1 was 45%.

Recording a formal mortgage had three goals. First, it made it easier to recover debts. In many states, mortgages were formulated as conditional sales. If a loan was not repaid, the mortgaged property automatically became the ownership of the lender. Alternatively, a mortgage took the form of “deed of trust”, appointing a trustee who could sell the collateral if the borrower defaulted (Martin 2015, p. 43). This would work faster than “the operation of the law”, which would usually involve going to court and dealing with the local sheriff. Second, mortgages helped establish seniority among creditors. After taxes, court judgments and, in case of death, doctor and undertaker bills, holders of a mortgage were first in line for repayment (Balleisen 2001, p. 81-2, Blackmar 2012, p. 101). Kilbourne (1995, p. 47) gives the example of the factorage firm Oakey, Hawkins and Co. who held a mortgage against the
estate of John Livingston DeLee in 184. The mortgage made their claims senior to those of the other 23 creditors. Finally, an official mortgage made it easier for creditors to sell debt claims to outside investors (Kilbourne [1995], p. 45).

Mortgages were often recorded years after the original loans had been extended, often when repayment had come in doubt. Baleissen (2001, p. 80) argues that if creditors were afraid a claim would not be met “they could ask for some means of legally securing their claim – either a pledge of collateral or a mortgage on real [or movable] property”. Country stores extended unsecured credit, but, sometimes, when they renewed loans, they would ask for a mortgage (Atherton [1949], p. 127). Marler (2013, p. 87, 107-8) documents how factors used mortgages to seek additional protection from default. In 1848, H. C. Simrall, a planter in Woodville, Mississippi, “considered [it] altogether unusual” that his Crescent City factor, Joseph Lallande, had recently “declined from making the necessary supplies without a mortgage.” In another instance, storeowner Lebret and his wife Elise had to take out mortgages on some of their slave- and landholdings to secure the debts to their creditors, including a New Orleans based factor. Killick (1977, p. 182-3) documents that after the Panic of 1837, Alexander Brown and Sons were forced to convert half a million dollars of short term debts into long term loans secured with mortgages and payable over the next few years. Jane C. Oliver, the widow who borrowed to build houses in Petersburg, Virginia, got in trouble in 1856. The houses did not sell quickly enough and a lot of her debts came do. In response, she mortgaged everything she had. In the next few months her town lots, plantation and seven of her slaves were sold to satisfy her debts (Lebsock [1984], p. 126).

A.5.3 Accommodation paper

Long term credit in the South was most commonly extended in the form of accommodation paper. This included a wide range of personal loans that were formally unsecured, most importantly promissory notes, and that were not directly related to a particular shipment of commodities. We briefly describe how this form of credit was used and how the law supported it.

According to Kilbourne (1995, p. 24), accommodation paper was “the primary instrument for funding loans, whether in the local or regional economies”. According to legal his-
torian Freyer (1979, p. 59), it was “one of the most widespread and valuable uses of credit”. Based on court records in Natchez, Mississippi, David (2011) documents the widespread use of accommodation loans and argues that this source of credit was essential for business. Kahn (2015, p. 12) suggests it was not just important for the South but for the U.S. as a whole.

They key to accommodation paper was that it was negotiable. That is, lenders could sell and transfer claims to other lenders, also in satisfaction of their own debts (Freyer [1979], p. 36). In the absence of a well-developed formal banking sector, this was essential for the smooth operation of credit markets. According to Freyer (1981, p. 606-7), the negotiability of accommodation paper

provided incentives to use credit as a basis for further advances of credit rather than merely for the paying off of accounts. The overall impact of commercial law doctrines was to supply large and small businessmen, in both agriculture and commerce, with the means to develop their enterprise.

In order to facilitate the secondary market in accommodation paper, many loans carried endorsements from the most creditworthy individuals in the local economy (Kilbourne ([1995], p. 18-19, 24, 30). Also, whenever accommodation paper was sold in the secondary market, the seller added his own endorsement, making claims more secure (Freyer [1981], p. 596). Though much of this lending was relatively informal, often there was no official documentation, just personal IOUs, the courts strictly enforced the loans (David [2011], p. 223).

In the end, the prevalence of accommodation paper led to “long strings of obligations and endorsements” that would frequently cross state borders (Freyer [1979], p. 36, 59, Kahn [2015], p. 15). Bodenhorn (1992, p. 601) argues that this led to a well-integrated market for short term debt instruments in the U.S. This also carried risk. Freyer (1981, p. 606-7) argues that

The average businessman’s capital was composed of an aggregate of relatively small loans spread around numerous creditors. Usually, each creditor was, in turn, the debtor of someone else. This entwining of many relatively modest debts and credits made it rather difficult to
determine whether at any given point in time a businessman was solvent. (...) Insolvency was a fact of life for both large and small businessmen. Because the pattern of debt was similar for most businessmen, virtually everyone was vulnerable to risks of failure.

In the absence of a well-developed formal banking system, accommodation paper often circulated as a form of private money (Freyer [1979], p. 36, Freyer [1981], p. 606-7, Kilbourne [1995], p. 17, David [2011], p. 221, Kahn [2015], p. 12). There was simply not enough specie available to support all commercial transaction and people used promissory notes with good endorsements as currency.

David (2011, p. 224-6) documents that accommodation loans formally had a maturity of one to two years, but that they were frequently renewed and often ran for much longer, providing an importance source of long-term credit. According to David, “charges were increasingly deferred until the death of one party forced settlement”. Kilbourne (1995, p. 24) gives the example of Henry Marston who purchased slaves in 1839 at a probate sale in Charleston, South Carolina. He funded this with accommodation paper and it took more than ten years for him to repay the loan, although such long maturities appear to have been unusual.

A.5.4 Enforcement

When a debtor defaulted, creditors had two options: renegotiate the terms of the loan, possibly extending the maturity and lowering the interest rate, or file a suit against the debtor, placing a lien on his (or her) assets (Balleisen [2001], p. 85, Brennecke [2016], p. 6).

The courts strictly enforced creditors’ rights (David 2011). In fact, one of the key tasks of civil courts appears to have been the enforcement of debt collection. According to Russell (1996, p. 343-9), between 1820 and 1859 90% of all civil suits in South Carolina were debt cases; 90% of the time creditors won the case. These cases were usually straightforward:

By 1840 the creditors’ domination of the courthouse had become unremarkable. The South Carolina legislators now regarded some cases as so routine that they allowed the clerks to handle them entirely and to record them separately from those cases that judges might consider and hear. Creditors’ cases were no longer judicial matters; they had become mere clerical matters.
Khan (2015, p 13) documents the same patterns for Maine. Between 1800 and 1850, creditors won about 90% of all debt cases. She argues that “courts were primarily being used as a third-party enforcement mechanism for well-developed financial markets rather than as a forum for genuine conflict”. After the court had ruled in favor of the creditor, it was the duty of the local sheriff to liquidate as much of the debtor’s movable and real property as was needed to satisfy the creditor’s claim plus court costs (Balleisen [2001], p. 80-1).4

Other laws further enhanced creditors’ rights. In most Southern states, creditors could file suit preemptively under the so-called attachment laws. If they could provide evidence to the court that a debtor was concealing himself, was planning on leaving the state or was more generally trying to avoid the normal process of the law, the court would allow them to attach the debtor’s property, that is take into possession until the debtor came forward to settle the claims (Balleisen [2001], p. 80-1, Holcombe [1848], Livingston’s Monthly Law Magazine, vol II [1854]). In some states, creditors even had the option of getting a court judgment before the loan contract ended. This would speed up the process of liquidation if the debtor failed to repay (Russell 1996, p. 332, 354). Moreover, the legal code would punish debtors trying to abscond. Many Southern states still had debtor’s prison that would be used to force debtors to give up assets. Debtors would only be released after the assignment of their property to creditors. In most states, debtor’s prison was only gradually abolished, the process only complete after the Civil War (Coleman [1974], p. 243, Russell [1996], p. 353; for details see Holcombe 1848 and Livingston’s Monthly Law Magazine, vol II, [1854]).

Creditor rights were also strictly enforced in the probate courts that dealt with the estates of deceased persons. Heirs only inherited what was left after creditors had taken their share; it was normal for executors to sell moveable property and real estate to settle outstanding debt claims (Priest [2006], p. 429). According to Blackmar (2012, p. 94-96), in many cases, “death stopped the flow of exchange only to reveal insolvency”.

There are many examples of debt collection in the secondary literature. Rockman (2011, p. 21) describes how in aftermath of the Panics of 1837 and 1839, many Southerners failed to

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4Olegario (2006, p. 31) mentions that sheriffs, as they were locally elected, were sometimes reluctant to push through with a liquidation and tried to stall.
meet their bills and Northern manufacturers sent out collection agents to recoup the debts. These agents would only file suit if a person had property, especially slaves. Byrne (2006, p. 30, p. 45-6) describes how country stores used court actions to collect debts. He provides a number of examples of advertisements where customers were asked to repay their debts “or expect to settle with an officer”. Olegario (2006, p. 30) provides similar evidence. Many of these examples involved slave property. Especially after the Panics of 1837 and 1839, slaves frequently ended up on the courthouse steps, being sold off by sheriffs in the satisfaction of their masters’ debts (Russell [1997], p. 486).

A.6 Debtor protection and the introduction of Married Women Property Acts

A.6.1 The risks of credit

The U.S. economy in the 19th century was volatile. Since most agents were indebted, one way or the other, economic downturns could spell insolvency for many. Friedman (2005, p. 179) speaks of “the pervasive ruinous force of the business cycle” and argues that

> Crisis struck the economy with shock waves at regular and irregular intervals. Volcanic eruptions and disruptions in prices caused deep insecurity among debtors, creditors and merchants.

Balleisen (2001, p. 26, 32) speaks of “periodic financial crises that buffeted the American economy, ushering in periods of sustained commercial depression” and “wrenching oscillations of boom and bust”. He argues that

> The basic workings of antebellum capitalism ensured that hundreds and thousands of Americans would carry heavy loads of debt. The fundamental character of the economy further guaranteed that crippling losses would visit a large proportion of those Americans.

Farmers were fully aware of these risks and the strong adherence to creditor rights made many reluctant to borrow. Gavin Wright (1978, p. 66-67) argues that yeoman farmers’
key objective was to keep ownership of their farm. In particular, they used a relatively large share of their acreage to plant foodstuffs instead of commercial crops like cotton. This meant that in years with low prices for commercial crops, they would not have to borrow to feed their family and slaves. This minimized the risk of having their land and slaves seized by creditors later on (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. According to McCurry (1995, p. 64) yeoman farmers tried to “avoid incurring debts they could not repay”. Edwards (2011, 121-2), in his study of yeoman farming, argues that yeoman farmers were reluctant to purchase slaves on credit because of the risks involved.

If farmers did become indebted up to the point they had to default, the only escape available for them 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.

A.6.2 The Panics of 1837 and 1839 and the call for debtor protection

The Panics of 1837 and 1839 and subsequent depression are a case in point of the U.S.’ volatile economy. There had been an economic boom in 1830s characterized by a significant expansion of credit due to chartering of new banks in the U.S. South and the inflow of credit from Britain. When cotton prices fell in 1837, the “flush times” that had been built on easy credit ended. The economy rebounded somewhat, but in 1839 the Bank of England increased its discount rate and this caused the U.S. economy, and the South in particular, to fall into depression. The South’s economy only started to recover in 1843 (Temin [1969], Schweikart [1987], p. 48-90, Balleisen [2001], p. 32-41, Wallis [2001], Roberts [2012], p.13-48).

The depression was a significant displacement of the U.S. South’s economy. There was significant deflation that made it difficult for borrowers to repay their debts (Wallis [2001]). Many planters and farmers became insolvent and their assets were sold off in execution sales (Baptist [2012], p. 89). According to the Vicksburg, Mississippi Whig (quoted in Roberts [2012], p. 21)
Never, we imagine, has the future been shrouded in a deeper and more portentous gloom than at this time. The darkest days of 1837 presented but a faint picture to what is now exhibited, and from every town and county in the State we have the same melancholy prospect. The whole community is literally upon the rack, and the best men in the country find it impossible to raise any amount of money, except at the most ruinous sacrifices. (…) Men give up all they possess to satisfy their creditors, see their property knocked down under the hammer of the sheriff or the marshal, at one-fourth at least of its value, and find themselves beggars. (…) We are informed that land and Negroes are selling under execution for a fifth of their real value. When or where this will stop, God only knows. When, or from whence relief is to come, we know not; but unless relief does come, and come speedily, this country will present a scene of widespread ruin and desolation, such as has never been witnessed before. The prospect is frightful to contemplate.

Many Southern states came to the conclusion that, to adequately deal with future financial crises, the law had to incorporate more debtor protection. Due to the particular legal environment, many states opted for the introduction of Married Women Property Acts (MWPAs henceforth). To understand the link between debtor relief and marriage legislation, it is useful to first discuss the limitations of debtor protection under U.S law.

Initially, the federal government stepped in and introduced significant debtor protection through the Federal Bankruptcy Act, passed in the summer of 1841. The Federal government had the power to intervene in existing (debt) contracts and the act allowed for the voluntary application for bankruptcy. Upon surrendering his (or her) assets, a borrower could obtain a discharge from its debt and obtain a fresh start. The law was repealed within the year, judged by both creditors and debtors to be an inefficient piece of legislation. Creditors only received small settlements as assets had to be sold too quickly at fire sale prices and legal fees often absorbed much of the proceeds. Debtors also started disfavoring the act as they realized it reduced the availability of credit. Furthermore, while the act was in place, the law discharged the debts of tens-of-thousands of Americans and this reduced the pressure to have a bankruptcy law in place (Coleman [1974], p. 23-24, Balleisen [2001], p. 101-33).

In many U.S. states the repeal of the Federal Bankruptcy Act of 1841 left an unsatisfied
demand for debtor protection. In the words of legal historian Thurman (1960, p. 15-6)

Because in the 19th century bankruptcy provisions were spotty, state insolvency laws lopsided, business failures frequent, and risks incurred of a kind not encountered today (such as bank failures, debasement of currency), there was a search for devices that would limit liability and protect the family as an economic unit.

However, the room for action at the state level was limited. After years of legal proceedings, the Federal ruling in Ogden v Saunders in 1827 had given state legislatures the jurisdiction to introduce bankruptcy relief at the state level. However, such laws had serious restrictions. First, state level bankruptcy relief was not supposed to change the terms of debt contracts retroactively; this would violate the Federal Constitution’s contract clause. Second, it could only affect in-state debt contracts as inter-state debt contracts were governed by Federal laws. (Coleman [1974], p. 32-4, Friedman [2005], p. 201, Balleisen [2001], p. 12-3, Olegario [2006], p. 32). These restrictions meant that individual states could only pass laws that were limited in scope. Most loans were part of complicated strings of credit transactions that crossed state borders. State level legislation affecting the in-state portion of those credit chains would have only resulted in legal ambiguity and states generally backed away from this. Maryland was the only state to introduce full bankruptcy relief (Coleman 1974, p. 254).5 Some states relied on emergency measures, such as stay and appraisal laws, that they could implement in a crisis. However, these measures were usually deemed unconstitutional and would only be on the books for a short period of time “to tide borrowers over periods of intense hardship” (Coleman [1974], p. 35-6, Friedman [2005], p. 180, Balleisen [2001], p. 12, 86, Bolton and Rosenthal [2001]).6 For example, North Carolina introduced stay laws in 1783, 1809, 1812, 1861, 1866, 1867 and 1868; none of these survived for more than 1 or 2 years (Coleman 1974, p. 225).

5Many states did introduce “insolvency laws”, but these only dealt with changing the rules around debtor’s prison (which was still on the books in many Southern states) and did not directly affect debt contracts. They also did not involve the discharge of debt. Movable and real property that might be acquired in the future remained liable for unsatisfied debts. (Holcombe 1848).

6Stay laws imposed a waiting period between court decisions and the liquidation of the debtors’ estate. Appraisal laws stipulated that assets could only be sold if they fetched a certain percentage of the appraised value (Olegario [2006], p. 31).
A.6.3 The passage of the MWPAs as debtor protection

States’ inability to affect debt contracts directly forced them to consider other options to implement a certain level of debtor protection. They opted for legislation that would shield particular forms of property from the seizure of creditors. When applied prospectively, this would not violate the constitution’s contract clause. Moreover, the exemption of property did not imply direct meddling with inter-state debt contracts.

The first exemption laws that were introduced were the MWPAs. According to Priest (2006, p. 456), the passing of these acts in the 1840s was the first significant reform in debtor and creditor relations since the early 18th century. The MWPAs protected at least part of a wife’s property from her husband’s creditors. Importantly, this also included the income the property generate so that in case of the husband’s insolvency, the household could always rely on a stream of income for their and their children’s support. Over the next few decades, particularly in the 1850s, states also introduced homestead exemption laws that protected a minimum of families’ land holdings (Farnam [1938], Goodman [1993], Balleisen [2001], p. 12, Priest [2006], p. 456). Table A2 provides details.

Priest (2006, p. 456) argues that the primary goal of the MWPAs was to make married women’s property “immune from the claims of their husbands’ creditors”. Olegario (2006, p. 107-8) agrees that the MWPA were meant “primarily to protect the assets of wives from their husbands’ creditors”. The historical literature on the expansion of women’s rights in the 19th century, also sees the introduction of the first MWPAs in the 1840s as a form of debtor protection. For example Lebsock (1977, p. 203; 1984, p. 85) argues that

The general demand for debtor relief probably did much to promote the approval of laws specifically for the protection of the property of married women. A married-women’s law shielded the husband while it shielded the wife; a man who was about to lose his own holdings could rest in the knowledge that in the future his wife’s property would be secure.

The main engine behind the passage of the initial married women’s property reforms was (…) the desire to protect women’s property from seizure when indebtedness was rampant and creditors impatient.
In the same spirit, Speth (1982, p. 74) argues that

By leaving the husband with the common-law right of management and control of the wife’s property, yet preventing that property from being seized for his debts, the early married women’s property acts left the husband in a better position to withstand the hazards of the 19th c. economy. The risks of speculation and investment were reduced and the danger of economic ruin and bankruptcy, if not eliminated, was at least minimized by placing the wife’s property beyond the reach of her husband’s creditors.

Finally, Chused (1983, p. 1402-3) writes that

The first wave of married women’s acts (…) operated much like exemption laws. If the new model of family finance appearing in the first half of the nineteenth century called for men to undertake financial risks for the benefit of their families, then setting aside wives’ property simply provided another body of exempt assets when the risk taking went sour. The statutes themselves reflected this reality. (…) While these acts may also be justified because they preserved inherited property from rapacious husbands or provided married women with some independent means of support, they also provided some husbands and families with continued access to assets despite bad economic times.

Contemporaries were aware of this link between debtor protection and the passage of the MWPAs. A newspaper in Georgia argued that the cardinal importance of the acts was to “provide suitable allowances to the wife on the insolvency of the husband”.7 Another Georgia newspaper saw a clear link with the hardships caused by insolvencies after the Panics of 1837 and 1839:

The experience of the past ought to teach us that the property of married women ought to be secured by the law, more strongly to them. We care not how prudent a partner for life the women has, that cannot prevent misfortunes from assailing

---

7Columbus Democrat, Feb 9, 1839, quoted in Warbasse (1987), p. 149
him. He may be honest, industrious, temperate, and yet, from some unforeseen
circumstance, his prospects are blasted in a moment, and to pay his contracts or
the contracts of others, whose security he was, the property of [his wife] is by the
sheriff put upon the block and knocked off to the highest bidder. Who, we here
ask, has not witnessed just such a scene in the course of the last four years! (...) The
frequency with which the property of women has been sold, in a few years past, to
pay the contracts of the husband, has alarmed and satisfied many of the
necessity of such a law. Its opponents (...) will never be able to assign any good
reason why property bequeathed to a daughter, by a father, should go to pay
debts of which she knew nothing, had no agency in creating, and the payment of
which, with her means, would reduce her and her children to beggary. This has
been done in hundreds of instances, and should no longer be tolerated by laws of
the land.8

The same sentiment was echoed in Tennessee and Mississippi

The reverses of the last few years, have shown so much devastation of married
women’s property by the misfortunes of their husbands, that some now modifi-
cation of the law, seems the dictate of justice as well as of prudence.9

Should this bill pass, the name of its mover and advocate should be embalmed in
the affections of the thousands of families that might be saved from utter beggary
and destitution by its salutary provisions.10

The popularity of the MWPAs as a form of debtor protection seems to have been in part
driven by society’s concern with the position of the family. As Thurman (1966, p. 14-15)
writes

Supporters of the statutes (...), saw them as the means to promote both the
establishment and financial security of families. (...) Concern for the economic

---

stability of the family was nationwide. Sponsors of the married women’s property measures claimed that the protection given the wife’s separate property would provide the necessary financial security for the family’s wellbeing.

The image of women and children impoverished by their husbands’ debts also served as a useful rhetorical tool to convince conservative legislatures of the necessity of debtor protection (Lebsock 1977, p. 203). This did not sway all contemporaries. Dudley S. Jennings, an advocate for creditors’ interests, attacked its proponents for using women as an excuse to pass far reaching debtor protection.

The passage of this act may possibly be attributed by many to the spirit of the age – a growing intention to protect the actual property of the fairer and better portion of humanity (…). The timing of its passage, however, and the effect it has had (…), render its passage obnoxious to the most serious objections. The remark is a common one that in its passage, women and their peculiar rights and property, were scarcely thought of, and, although it contains a provision that the property secured by it to the sole use of married women, and not liable for the debts of the husband, shall not be derived from the husband after marriage, it is notorious that no act ever passed has been a cover to more or ranker injustice than this.11

A.6.4 The MWPAs in theory

In Appendix B we provide more details about the MWPAs and we reproduce the acts in full. In this section, we highlight some of the most important features of the laws as they relate to the interaction with credit markets.

Under the MWPAs, husbands retained control of their wife’s property and the income it generated. Under the traditional common law married women lacked the legal capacity to contract (Kelly 1882). The MWPAs did not change this feature of the law and judges interpreted the acts conservatively (Thurman 1966, p. 46-7). For example, a Mississippi decision from 1846 (15 Miss 64) held that

11Quoted in Warbasse (1987), p. 148, original in Jennings (1847)
[The law] has not the effect to extend [a wife’s] power of contracting, or of binding herself or her property; its effect rather is to take away all power of subjecting her property to her contracts.

As a result, women remained unable to sign debt contracts themselves. This meant that their property could not, in any way, be used to secure loans. The only person in the household able to contract debt was the husband and the primary goal of the law was to separate the wife’s assets from these debts (Lebsock [1977], p. 207; [1984], p. 85).

The MWPAs were prospective only. Otherwise they would violate the state constitutions or the Federal constitution’s contract clause. This meant that only newlyweds were affected by the passage of the Acts. For example, the Florida Act of 1845 only operated “hereafter, when any female (...) shall marry”. Only North Carolina wanted its 1849 Act to operate (somewhat) retroactively by protecting newly acquired property of women already married. It is not clear whether this held up in court; the 1868 North Carolina constitution dropped this stipulation. According to Thurman [1966, p. 44-5], due to the complicated legal issues, the courts interpreted the “legislation as intended to have only prospective operation”. In an Alabama case in 1852 (20 Ala. 710), for example, the court referred to the 1848 Act but ignored it as the marriage in question had taken place before the passing of the law.

Under the MWPAs a couple could still sell the wife’s assets. In general, the proceeds had to be reinvested “for the wife’s benefit”. For example, an Alabama decision from 1857 (31 Ala. 39) maintained that, even if a wife’s property can be sold by a husband and wife jointly, the proceeds “are to be reinvested in ‘the purchase of other property’ – not sold for money”. The statute was interpreted to protect a wife’s property “not only against third persons, but against the husband himself.” However, if the husband was unable to provide for the family’s necessities out of his own pocket, his wife’s assets were supposed to cover the shortfall. For example, the Alabama Act of 1848 stated that “for all articles of family supply or used in the family, the husband shall be severally, or the husband and wife jointly liable and suable at law.” Similarly, the Kentucky Act of 1846 states that [the wife’s estate] shall be liable for all debts by her and her husband, contracted or created jointly, in writing, for necessaries furnished her or any member of her family.”

Husbands and wives could not transact with each other or convey property. This had
been a feature of the traditional common law and the MWPAs did not change this feature of the law (Rabkin (1975, p. 687)). The Alabama MWPA of 1848 made this explicit:

> Nothing in this act shall be so construed as to authorize the transfer of any property, whether real or personal from the husband to the wife either by virtue of sale or gift.

This appears to have been widely upheld in court. Examples are in 24 Miss. 181 and 39 Ala. 138. This feature of the law addressed the concern that men might use a MWPA to defraud creditors by transferring assets to their wives. Some of the literature suggests that this did not fully remove the scope for fraud. For example, a husband could try to have a third party convey property to his wife rather than to himself. This led to a grey area where creditors could not be sure whether they would be able to seize a husband’s assets or whether these assets might turn out to be the wife’s separate property. This legal uncertainty seems to have been one of the driving forces behind the passage of later versions of the MWPAs that gave women the power to contract and by which her assets did become liable for the couple’s debts (Basch 1982, p. 210-211 Chused 1983, p. 1412; Chatfield 2014, p. 51).

### A.6.5 The MWPAs in practice

The MWPAs were widely upheld in court. For example, in Frost v. Doyle (15 Miss 68, 1846) a husband had used his wife’s estate to secure a number of promissory notes. When the creditor tried to seize the collateral, the court ruled against this, stating that “the notes did not constitute a valid charge”. Thurman speaks of “ready acceptance of the statutes by the judges.” For example, in 1856, the Mississippi court began to write per curiam opinions in cases that related to the Married Women’s Property Acts. That is, no individual judge looked at the case, rather the court as a whole issued a standard verdict (Thurman [1966], p. 47).

Households relied actively on the MWPAs to shield their assets in times of crisis. For example, after the Civil War many Southern households became insolvent. Thomson (2004, p. 26-7) finds that households in South Carolina, Mississippi and Tennessee managed to
keep some of their property as they “took advantage of state laws passed before and after the Civil War that allowed married women to own property in their own right”.

Another example comes from Louisiana. As we explain in Appendix B, Section B.4, Louisiana had a different legal system for marriages: the community property system. Under this system, a wife held a mortgage on her husband for the property she brought into the marriage or had later acquired through inheritance or gifts from family. Her assets were not liable for her husband’s debts and her mortgage was senior to any other claims. If her property was in danger “owing to the mismanagement of her husband, or otherwise, or when the disorder of his affairs induced her to believe that his estate might not be sufficient to meet her rights and claims”, she could petition for the separation of her estate. Based on 1870 census records, Kilbourne estimates that, after the Civil War, between a third and half of couples successfully separated their property. This held up well in court (Kilbourne 1995, p. 100-5, p. 121, 141). Kilbourne argues that

The wives of merchants, doctors, lawyers, plantation overseers, mechanics, druggists, farmers, planters, and college professors filed suits in hopes of saving even a small sustenance.

Creditors were well aware that the MWPAs could affect their claims on debtors’ estates. For example, Holcombe, in his 1848 law textbook on the rights of debtors and creditors, pays explicit attention to the MWPAs. The Mercantile Agency also took note of the acts. In their reports, the agency frequently reported on the financial standing of women. Lebsock (184, p. 56-7) gives a number of examples: “was poor himself but within 2 years married a Lady with good Estate”, “just married the daughter of a wealthy planter”, “married a lady worth $20,000”, “his wife is sole heiress of a rich father”, “his wife I believe has some value”. They would also report whether the wife’s wealth could potentially be seized by creditors. For example, they noted that most of the wealth accruing to Vicksburg, Mississippi, storekeeper William Biggs was in his wife’s name, so that “little of his own the law could reach” (Byrne [2006], p. 24, 222-3). Olegario (2006, p. 108), in her history of credit markets in the 19th and 20th century, argues that this was typical, providing the example of one P. J. Avery, who, it was reported, “has some property; all of which I think is in [the wife’s] name and would be
difficult to reach if a collection were forced.” 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 Negroes which some say is not come-at-able as they are in his wife’s name” (Rockman [2011], p. 26).

A.7 References


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[26] Govan, Thomas P. (1938), Banking and the Credit System in Georgia, 1810-1860, The Journal of Southern History, 4-2, 164-184


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A.8 Figures and Tables
Figure A1: Schematic of Structure of Antebellum Southern Credit System
Note: This diagram provides a simplified overview of the financial system in the antebellum South. The different lines indicate different forms of credit. Yeoman farmers (YF) include (middling) planters who were net-borrowers. Rich planters (P) only include net-creditors. Amounts are approximate and in terms of $ per free household. “?” indicates that we cannot arrive at a reliable estimate of the underlying number.

Sources:
1. Credit from wholesalers (WS) to country stores (CS): The Mercantile Agency reported that in the 1850s country stores owed on average $14,500 to wholesalers (Olegario 2006, p. 26). This is consistent with the lower bound estimate from Marler (2013, p. 94-5, 102) who reports that, in the early 1850s, most country stores had annual sales between $20,000 and $50,000 and sold 75-80% on credit. Using the number of country stores in the South from the 1840 manufacturing census, this translates into approximately $320 per free household (1840 population numbers). (2) Capital Country Stores (CS): the 1840 manufacturing census reports the capital invested in country stores (Atherton 1949, p. 41). For the U.S. South, this translates into approximately $100 per free household (1840 population numbers). (3) Credit from local banks (B) to factors (F): State chartered banks only. For the U.S. South, total loans and discounts in 1849 translate into approximately $100 per free household (1850 population data). Data on loans and discounts come from United States Government Printing Office, “Conditions of the Banks in the United States.” United States Congressional Serial Set. v.578 H. Exec. Doc. No. 68, 31st Cong., 1st Sess. Washington: U.S. G.P.O. (1850). (4) Capital of factors (F): the 1840 manufacturing census reports the capital invested in commission houses; this roughly corresponds to factors. For the U.S. South, this translates into $40 per free household (1840 population numbers). (5) Credit from factors (F) to country stores (CS) and rich planters (P): to keep the diagram as simple as possible, we assume that the factors’ (F) capital and the credit obtained from state chartered banks (B) went exclusively to country stores, and that the credit obtained from international merchants and private banks (IMB) went exclusively to rich planters (P). (6) Yeoman farmers’ (YF) real state and slaves: the value of real estate and slaves in the U.S. South in 1850 per free household amounts to approximately $2,000 (1850 population numbers). This likely overestimates asset holdings for yeoman farmers, as a large share of real estate and slaves in the South were owned by a small group of rich planters (P).
Figure A2: Chartered Bank Loans and Discounts Per (Free) HH, By Region

Table A1: Mortgages East Feliciana Parish

<table>
<thead>
<tr>
<th>Name</th>
<th>Year</th>
<th>Loan ($)</th>
<th>No. of Slaves</th>
<th>Collateral</th>
<th>Value of land ($)</th>
<th>Total Value ($)</th>
<th>LTV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Joseph Kirkland</td>
<td>1825</td>
<td>4,900</td>
<td>32</td>
<td>(N/A)</td>
<td>(N/A)</td>
<td>13,510</td>
<td>0.36</td>
</tr>
<tr>
<td>Frederick Williams</td>
<td>1828</td>
<td>1,800</td>
<td>7</td>
<td>(N/A)</td>
<td>(N/A)</td>
<td>5,401</td>
<td>0.33</td>
</tr>
<tr>
<td>Margaret Johnson</td>
<td>1845</td>
<td>750</td>
<td>8</td>
<td>(10)</td>
<td>(9,220)</td>
<td>2,736</td>
<td>0.27</td>
</tr>
<tr>
<td>(Morris)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>John Kernan</td>
<td>1845</td>
<td>1,600</td>
<td>7</td>
<td>(6)</td>
<td>(5,200)</td>
<td>2,394</td>
<td>0.67</td>
</tr>
<tr>
<td>Henry Lathrop</td>
<td>1845</td>
<td>700</td>
<td>7</td>
<td>(11)</td>
<td>(20,000)</td>
<td>2,394</td>
<td>0.29</td>
</tr>
<tr>
<td>Stephen Johnson</td>
<td>1846</td>
<td>1,600</td>
<td>10</td>
<td>(10)</td>
<td>(9,220)</td>
<td>3,580</td>
<td>0.45</td>
</tr>
<tr>
<td>Elizabeth Chaney</td>
<td>1846</td>
<td>12,000</td>
<td>28</td>
<td>(40)</td>
<td>(23,060)</td>
<td>10,024</td>
<td>1.20</td>
</tr>
<tr>
<td>(Howell)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Henry Knox</td>
<td>1846</td>
<td>1,320</td>
<td>2</td>
<td>(0)</td>
<td>(4,550)</td>
<td>716</td>
<td>1.84</td>
</tr>
<tr>
<td>John L. DeLee</td>
<td>1848</td>
<td>5,000</td>
<td>51</td>
<td>(54)</td>
<td>(34,800)</td>
<td>25,419</td>
<td>0.20</td>
</tr>
<tr>
<td>John McKneeley</td>
<td>1854</td>
<td>18,500</td>
<td>50</td>
<td>(70)</td>
<td>(53,000)</td>
<td>37,310</td>
<td>0.50</td>
</tr>
<tr>
<td>Alexander and</td>
<td>1855</td>
<td>18,725</td>
<td>76</td>
<td>(81)</td>
<td>(26,000)</td>
<td>53,223</td>
<td>0.35</td>
</tr>
<tr>
<td>John Y Mills</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Benajah D Doughty</td>
<td>1855</td>
<td>1,260</td>
<td>6</td>
<td>(5)</td>
<td>(2,950)</td>
<td>3,600</td>
<td>0.35</td>
</tr>
<tr>
<td>George Purnell</td>
<td>1856</td>
<td>11,000</td>
<td>24</td>
<td>(56)</td>
<td>(39,500)</td>
<td>22,278</td>
<td>0.49</td>
</tr>
<tr>
<td>Daniel McMillan</td>
<td>1856</td>
<td>10,776</td>
<td>20</td>
<td>(19)</td>
<td>(13,000)</td>
<td>13,120</td>
<td>0.82</td>
</tr>
<tr>
<td>Bailey D. Chaney</td>
<td>1857</td>
<td>13,000</td>
<td>32</td>
<td>(35)</td>
<td>(39,000)</td>
<td>30,661</td>
<td>0.42</td>
</tr>
<tr>
<td>Sarah Sims</td>
<td>1857</td>
<td>1,150</td>
<td>5</td>
<td>(0)</td>
<td>(12,500)</td>
<td>3,180</td>
<td>0.36</td>
</tr>
<tr>
<td>Average</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.45</td>
</tr>
</tbody>
</table>

This table lists 16 mortgages from Kilbourne (1995) for which detailed information is available. The numbers in parentheses indicate the number of slaves or value of real estate reported in the 1850 census. All mortgages were recorded in East Feliciana Parish in Louisiana. The year column refers to the year a mortgage was passed. The loan amount is the notional value of the mortgage. The columns under the heading "collateral" indicate the assets underlying the mortgage: the number of slaves and a certain acreage of land. Kilbourne lists land in acres, we present the $ value, using an average price for improved and unimproved land in East Feliciana Parish of $7.26 per acre. This number comes from the 1850 census. We calculate the total value of the collateral using the average slave price in the year a mortgage was recorded. This data comes from (Carter et al 2006). The final column with "LTV" calculates the loan-to-value ratio. Both slave and land values are approximations. If acreage only referred to improved or unimproved land, values would be different. Exact slave values depend on sex and age, which we don’t capture in this table. As a result, individual LTVs are approximate only.
Table A2: Homestead exemptions in the South, 1839-1870

<table>
<thead>
<tr>
<th>State</th>
<th>Year of law pre-1850</th>
<th>Exemption</th>
<th>Year of law 1850-1870</th>
<th>Exemption</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alabama</td>
<td>1843</td>
<td>$400</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arkansas</td>
<td></td>
<td></td>
<td>1852</td>
<td>160 acres</td>
</tr>
<tr>
<td>Florida</td>
<td>1845</td>
<td>$200</td>
<td>1866</td>
<td>$1000</td>
</tr>
<tr>
<td>Georgia</td>
<td>1845</td>
<td>50 acres</td>
<td>1868</td>
<td>$1600</td>
</tr>
<tr>
<td>Kentucky</td>
<td></td>
<td></td>
<td>1865</td>
<td>$1000</td>
</tr>
<tr>
<td>Louisiana</td>
<td></td>
<td></td>
<td>1852</td>
<td>$1000</td>
</tr>
<tr>
<td>Mississippi</td>
<td>1841</td>
<td>$1500</td>
<td>1865</td>
<td>$4000</td>
</tr>
<tr>
<td>North Carolina</td>
<td>1849</td>
<td>$50</td>
<td>1868</td>
<td>$1500</td>
</tr>
<tr>
<td>South Carolina</td>
<td></td>
<td></td>
<td>1868</td>
<td>$1000</td>
</tr>
<tr>
<td>Tennessee</td>
<td></td>
<td></td>
<td>1852</td>
<td>$500</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1868</td>
<td>$1000</td>
</tr>
<tr>
<td>Texas</td>
<td>1839</td>
<td>$500</td>
<td>1870</td>
<td>$5000</td>
</tr>
<tr>
<td></td>
<td>1845</td>
<td>$2000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Virginia</td>
<td></td>
<td></td>
<td>1867</td>
<td>$2000</td>
</tr>
</tbody>
</table>

Notes: Using average land prices reported in the 1850 census, Georgia’s 50 acres correspond to approximately $210, Arkansas 160 acres to approximately $940. Sources: Farnam (1938) and Coleman (1974).
B Historical Appendix II: Marriage and property in the antebellum South

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B.1 Introduction

In this appendix we provide more details about the Married Women’s Property Acts (MW-PAs) that were passed in the U.S. South in the 1840s. First, we discuss how common it was for (unmarried) women to own property. We then turn to the legal situation before the passage of the acts, in particular the nature of the prevailing common law, and we discuss problems associated with pre-nuptial agreements. Next, we turn to the MWPAs, arguing that debtor relief was a prime reason for their passage; the economic independence of women was only achieved by later legislation. We also discuss their impact on marital bargaining power. The final section of this appendix reproduces the acts in full text.

B.2 Property in the wife’s name

It was common for U.S. women in the first half of the 19th century to own property, usually acquired from their family. During colonial times, sons would usually receive land, with the oldest son receiving twice as much as his younger brothers or the largest plantation. Daughters received movable property, often in the form of slaves, either through marriage settlements or families’ bequests (Blackmar [2012], p. 96). Thomas Jefferson’s wife, for example, received 132 slaves (and many thousands of acres of land) when she married (Gikandi [2011]). Later, Jefferson would convey slaves to his daughters when they got married (Auslander 2011, p. 133).

After Independence, bequest patterns became more dispersive. By the end of the 1790s most US states (including the South) had abolished primogeniture and entail and moved to a system of partible inheritance (Priest [2015]). 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 (Shammas et al. [1987], p. 64-65; 83). Legal historian Thurman (1966, p. 20) writes that

With the abolishment of primogeniture and the adoption of more broadly dispersive descent and distribution provisions, more property was inherited and held by women.
Blackmar (2012, p. 96-7) argues that land would not necessarily go to the oldest son. Often it was divided between siblings or sold to satisfy inheritance claims. As a result, around the middle of the 19th century, southern women often came into the possession of both slaves and real estate. Kilbourne (1995, p. 105) mentions Ann Elfrith, who inherited the family residence in Jackson, Louisiana with household furnishings, valued at $2,000. Auslander (2011, p. 41) gives the example of the 1844 will of Henry Harper:

My entire family of negroes (not including Esther) I leave with my beloved Rhoda subject to a division amongst my children.

Unto my son, Edward . . . I give my negro boy, Sam.

I give to my daughter, Margaret Ann, my Negro boy, Franklin, about seven years old.

Unto my son, Uriel, I give my negro boy, Jacob, about five years old.

I give unto my daughter, Sarah, my negro boy, Burrel, about three years old.

Children’s inheritance would often be diminished by debts (Blackmar [2012]. Henry Harper’s will stated that

I desire that my executors herein appointed shall sell and dispose of Esther, about 30 years old, by public or private sale for the purpose of paying all my just debts.

Apart from inheritance, marriage settlements remained important. Auslander (2011, p. 57) provides a number of examples of the transfer of slave property upon daughters’ marriage in Greenwood County, Georgia. For example, Dr. Means, professor at Emory University gave each of his daughters a set of slaves from his household. Kilbourne (1995, p. 101-5) mentions Catherine Gore, who entered her marriage with $150 in cash and a horse-and-buggy, and Emily Stanley, who married in 1836 and who brought into the marriage a male slave, 1400 acres of land, a large stock of horses, cattle, oxen and hogs, and a promissory note of $1,700.

The life story of James Osgood Andrew, a Methodist Episcopal bishop from Greenwood County, illustrates the importance of slaves gifted or bequeathed to women. The first enslaved people Andrew encountered were gifts from his maternal grandfather to his parents
when they got married. In 1840, his wife Ann Amelia inherited two slaves (Billy and Lacy) after the death of her mother. After Ann Amelia had passed away in 1843, Andrew remarried with Ann Leonora who brought a larger number of slaves into the household. Some of these slaves had belonged to her late husband Thomas Greenwood. Others she had directly inherited from her parents. Later, these slaves came into the possession of her son and daughter, roughly in equal proportions. Her late husband’s slaves had, in turn, largely come from Thomas Greenwood’s first marriage with Nancy Mitchell who had been gifted these slaves by her father upon her marriage. After Ann Leonora passed away, Andrew married for a third time. Again, his spouse brought a large number of slaves into the household (Auslander 2011, p. 236-7, 267, 312-3, 335).

B.3 Common law

Marriage contracts officiated before the passage of the MWPAs were governed by traditional common law. Before marriage, a woman was considered a feme sole and, as economic agent, had the same legal position as men. This changed after marriage. At this point, 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; the marriage resulted in her “civil death”. Legal historian Rabkin (1975, p. 687) provides an excellent summary of the position of women under traditional common law. She writes that

Under the common law, a married woman was unable to contract with her husband or with third parties. Similarly she could not convey real or personal [movable] property to or from her husband nor acquire or dispose of property from third persons without her husband’s consent.

Because a married woman lacked the legal capacity to contract or convey, she could also not engage in business. She could not sue (or be sued), execute a valid will or purchase a slave. Moreover, she could not transact for others (Lebsock [1984], p. 23).

The “coverture” of the wife also meant that the husband obtained control over all property that the wife owned at marriage or acquired afterwards. He also became liable for any

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12Kelly (1882) provides an extensive treatment of common law.
debt that she might have contracted before marriage. The law made a distinction between movable and real property. All movable property vested absolutely in the husband. Likewise, all choses in action (payments due to the wife) belonged to the husband after he reduced them to possession. By doing so, he committed himself to “to make a suitable provision for his wife”. Regarding the wife’s real property, the husband obtained a “life” or “freehold” estate. This limited his possession to the duration of their marriage and their joint lives. During this period, however, the husband could use the property as he saw fit and was entitled to all income it generated. Moreover, his life interest in the property became liable for his debts and he could even mortgage it. After the wife’s death, the legal title of the real property passed on to the couple’s children, but the husband’s life estate would only end with his own passing.  

Under these legal provisions, the wife’s assets became liable for the husband’s debts. Creditors had unrestricted access to the moveable property and, while they could not seize the real estate itself, they did have a claim on all the income it generated. Even a wife’s clothes and jewelry could be seized (Rabkin [1975], p. 688-9). As Lebsock (1984, p. 57), in her book on the economic position of women in Petersburg, Virginia writes:  

The hard fact was that under common law the wife’s property was fair game for husbands and creditors alike.  

The wife enjoyed some protection from her husband, although this was limited. Under common law she was entitled to dower, or the so-called “widow’s third”. If her husband were to die before her, she received ownership of a third of her husband’s movable property and obtained a lifetime lease on a third of his real property and slaves. If, during the marriage, the husband wanted to convey real estate, the wife had to formally approve this as it might endanger her dower. Furthermore, under common law the husband was obliged to support his wife and children “according to his means”. At least in theory, this ensured the wife some revenues from their joint assets (Lebsock 1984, p. 24).  

13If there were no children, the wife’s property reverted back to her family immediately after her passing.
B.4 Problems with prenuptial agreements

In principle, couples could sign a prenuptial agreements to change the terms of a marriage contract. Such agreements would often put the wife’s assets in a trust to protect it from the husband’s creditors (Lebsock 1984, p. 56-62). Because of the presumed legal unity of husband of wife, the common law did not support such contracts. The couple had to rely on another legal system that existed parallel to the common law: equity (Kelly 1882, p. 68-69, Jenson 1979). Equity had been developed in Britain under influence of the crown in response to inequities in the traditional common law. It was purely case based and was administered by a separate court of chancery; there was no unified law code.

Before Independence from Britain, equity law appears to have been relatively well established in the American colonies. However, after independence, it seems to have slowly eroded. Hoff Wilson (1979, p. 11-12), in her article on the subject, writes that

In their haste to reform the laws of the new nation, the importance of equity as an agent for change and justice was lost upon a post-revolutionary generation of lawyers and judges as they turned from the original natural-law foundation of the common law to a unitary foundation for both statute law and common law. (…) The regression of the legal status of women evident by the end of the first half of 19th century. (…) There was a concerted effort to rid the United States of the feudal vestiges of English law such as equity trusts which had formerly protected the property of married women.

In practice, this meant that equity was only well established in particular states on the Eastern seaboard that had been under more direct influence of the British, in particular Delaware, Georgia, Maryland, New York, North and South Carolina and Virginia. Most of these states had set up separate chancery courts and this led to a fuller establishment of equity law. Other U.S. states generally recognized equity, but left its administration to the common law courts who generally lacked the expertise or state specific jurisprudence to administer it effectively. There was significant ambiguity and inconsistency in how courts dealt with separate trusts (Warbasse [1987], p. 164-8, Jenson [1979], p. 148, Salmon [1986], p. 82). Warbasse (1987, p. 42), in her history of the MWPAs, writes that
The confusion over equity’s place in the legal system led to uncertainty about the status of married women’s separate property. None of the states actually prohibited the creation of such trusts, but often no court existed with the power to enforce them.

A number of legal cases from Alabama demonstrate how difficult it was to protect a wife’s property by ways of a prenuptial agreement. In O’Neil v. Teague (8 Ala. 345) a father had bequeathed two slaves to his daughter’s trustees as her separate property right after her wedding in 1843. Nevertheless, in 1844 the court decided that the slaves could be seized to satisfy the debts the daughter’s husband had contracted before marriage, in 1839. In Michan v. Wyatt (21 Ala 813), the husbands’ creditors had seized slaves from a wife’s separate estate in 1843. The family had to prosecute for nine years to get them back.\textsuperscript{14}

Even in places where equity was well established, such as Virginia and South Carolina, it was rare for couples to sign a prenuptial agreement. Due to cost and legal complexity they appear to have been used predominantly by the upper classes and remained inaccessible for the majority of women (Jenson 1979, p. 144, Wyatt-Brown 1983, p. 257-8, Salmon 1986, p. 81). Salmon (1982, p. 663), in her article on marriage settlements in South Carolina, estimates that only 1-2% of marriages created a separate estate. Lebsock (1977, p. 199), in her article on the property rights of Southern women, writes that

\begin{quote}
These equitable estates (…) required foresight and legal expertise, their administration was often complicated and expensive, and there was no absolute guarantee that the woman’s rights would be upheld if her title were challenged in court. The vast majority of married women possessed no separate equitable estates; the minority who did lacked perfect security. Equity remained an uncertain escape route for the well-to-do.\textsuperscript{15}
\end{quote}

According to Salmon (1986, p. 82-84), in her book on women and property laws in antebellum America, the importance of prenuptial agreements was therefore intellectual

\textsuperscript{14}For similar cases see 2 Port 463, 8 Port 73, 2 Ala 152, 12 Ala 42, 15 Ala 169, and 16 Ala 181.

\textsuperscript{15}In later work, Lebsock (1984, p. 56-62) argues that the use of prenuptial agreements in Petersburg, Virginia grew in importance before the Civil War.
rather than practical: it provided a theoretical alternative to the traditional common law, facilitating the introduction of MWPAs later on:

The step from [separate estates] to passage of the MWPAs was a relatively small one, particularly because the primary motivation for both legal developments was the same, protection of women’s property from husbands’ creditors” (Salmon 1986, p. 117)

In addition to equitable separate estates, there was another legal precedent to the MWPAs: community property in Louisiana. Due to its Spanish and French legal heritage, the Louisiana law code was heavily influenced by civil (rather than common) law. Marriages were governed by a community property regime that protected the assets brought into the marriage by the wife (or later acquired through gift or inheritance) as her separate estate. Similar to common law, the husband controlled those assets and he alone had the legal capacity to contract. Unlike common law, however, the wife held a mortgage, senior to any creditors, to the amount of her separate estate and could sue for the separation of property if it was in danger due to the mismanagement or misfortune of the husband (Holcombe [1848], p. 400-2, Kilbourne [1995], p. 99-105, Marler [2013], p. 108). The Texas constitution of 1840 had also introduced the community property system (Warbasse [1987], p. 162).

### B.5 The passing of the MWPAs

The MWPAs were passed in three waves. The first set of laws were primarily passed as a form of debtor protection (Priest 2006). These acts, reproduced in Section B.7 of this appendix, only protected certain forms of property; they did not, in any way, change the legal restrictions of coverture, leaving in place common law disabilities such as the wife’s legal incapacity to contract (Thurman 1966, p. 4, 18). Chused (1983, p. 1398), in his overview of the MWPAs, writes that

The first group of statutes, passed almost entirely in the 1840’s, dealt primarily with freeing married women’s estates from the debts of their husbands. By and large these statutes left untouched the traditional marital estate and coverture rules.
Chused (1983, p. 1398-1400) further argues that the first wave of laws was “construed narrowly by the courts”, requiring further legislative efforts to “complete the married women’s property reform movement.” This was largely accomplished by the second wave of MWPAs, the ones that have received most attention in the literature (Khan 1996, Geddes and Lueck 2002, Doepke and Tertilt 2009). These acts changed the laws of coverture and gave women economic control over their separate estates. These were passed between the late 1840s and the 1870s. Finally, the third wave extended the laws’ protection to the separate earnings the wife brought into the marriage. These acts were generally only passed after the Civil War (Chused 1983, p. 1398).

There is a broad consensus in the literature that the first wave of MWPAs, the acts analyzed in this paper, were not intended to give women more economic rights. According to Lebsock, “the delegates regarded married-women’s-property reform as a matter of debtors’ rights rather than women’s rights” and “equality was the last thing most legislatures had in mind” (Lebsock 1977, p. 207; 1984, p. 85). Consistent with this point of view, Thurman (1966, p. 28-29) documents that the MWPAs led to many more debtor-creditor than intra-family lawsuits and argues that they fit more firmly in “in the law of creditor’s rights than that of domestic relations”.

Summarizing this literature, Friedman (2005, 3rd edition, 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.

This sentiment is echoed in many other contributions. According to Speth (1982, p. 73), in her article on the MWPAs,

[The early MWPAs passed in South] were limited in scope and represented a conservative effort to safeguard family property rather than an attempt to expand women’s rights. It merely protected her property from being seized by her husband’s creditors, and not one of the Southern states gave the wife any control over that property.
Legal historian Freyer (1984, p. 61) writes that

In South Carolina, Mississippi, Alabama, and elsewhere, [women’s assets] received legal protection, though not so much out of a concern for women’s own legal status as because of a felt need to protect family assets from the claims of creditors.

According to Sims (2007), in her work on the MWPAs in Mississippi,

The Mississippi Married Women’s Property Acts of 1839, 1846, and 1857 reflected the desire of the Mississippi patriarchy to protect themselves from economic instabilities. It is evident that the design of the law was not to bring gender equality to property law or to recognize the wife as a separate entity within the marriage.

Finally, Kahn (1996, p. 361), in her article on women’s property rights and innovation, writes:

The intent of these laws was to secure the property of a married woman from her husband’s creditors (…). Control remained with the husband, and courts interpreted the legislation narrowly to ensure that ownership did not signify independence from the family.

Lebsock argues that, from the legislatures’ perspective, giving women economic independence would have defeated the primary purpose of passing the acts. If women were given control over their own assets, they would be exposed to the risks of the marketplace. If the wife was drawn into a credit transaction, her assets would become liable and the family would again stand to lose all property after an adverse shock: “she would be subject to exploitation by anyone with whom she had business dealings. The wife would have nothing to protect her but her own business wits, which at the time were held in no very great esteem” (Lebsock 1977, p. 207). “The protective function of the law would be lost; the baby went out with the bath water when women were permitted to assume the same obligations and risks as men” (Lebsock 1984, p. 85). As a case in point, a Mississippi court decision from
1846 held that “[the law] has not the effect to extend [a wife’s] power of contracting, or of
binding herself or her property; its effect rather is to take away all power of subjecting her
property to her contracts” (15 Miss 64).

There were probably other reasons behind the first wave of MWPAs as well. First, there
may have been a dynastic motive. Fathers may have been unwilling to see their property
fall in the hands of outsiders or there may have been general concerns about the well-being of
future generations (Thurman 1966, p. 14-16, Sims 2007). Second, the acts were also meant
to protect women from “rapacious” husbands (Chused 1983, p. 1403). The Nashville Union
asked

Under the old law, which has been miscalled the ‘perfection of wisdom,’ how many
worthy women have been reduced from competence to beggary? How many have
been the victims of worthless fortune-hunters? How many have suffered cruel
privations from miserly husbands?\footnote{Nashville Union as quoted in Neal, Brother Jonathan, December 2, 1843, quoted in Warbasse [1987], p. 177}

In the same vein, the Vicksburg Daily Whig argued 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 I cannot discover any good reason
why the strong arm of legislation should not be extended to the protection of the
property they bring into the marriage bargain.\footnote{Vicksburg Daily Whig, Feb 12, 1839, quoted in Warbasse [1987], p. 150}

Finally, the passing of the first wave of MWPAs may simply have been a response to the
growing erosion of equity law in the antebellum period. Hoff Wilson (1979, p. 14) argues
that “the virtual elimination of certain equity trusts (…) in some states led inexorably to
MWPAs beginning in the second quarter of the nineteenth century.” According to Warbasse
(1987), states with a weak establishment of equity law were more likely to pass MWPAs,
although this is contradicted by Chused (1983) who sees no such relation.
Most Southern states either passed a MWPA before 1850 or saw legislative attempt to do so. Alabama, Florida, Kentucky, Mississippi, North Carolina and Tennessee all passed a MWPA before 1850. Section B.7 of this appendix reproduces these acts. Louisiana and Texas did not pass an act because they had no need for it; both featured a community property regime that automatically created a separate estate for the wife (for details see the last paragraph of Section B.4). Arkansas and Maryland opted for more restrictive legislation. Both copied the earlier (and more limited) Mississippi Act of 1839 that protected a wife’s slaves from being seized by the husband’s creditors, although the income generated by those slaves remained in the name of the husbands and was liable for his debts. In addition, the act sought to strengthen the position of prenuptial agreements under equity by making explicit that married women could own property in their own name. In 1846, Mississippi passed a more encompassing MWPA but Arkansas and Maryland did not follow suit. In our data, both Arkansas and Maryland are coded as not having a MWPA on the books. Georgia and South Carolina both tried to pass a MWPA in 1843. In Georgia, the bill failed to pass in the state legislature 104 votes against 69. In South Carolina, the bill never got out of committee. In the same year, Tennessee also tried to pass a MWPA. It passed the Senate 21 votes to 4, but was defeated in the house. The state finally passed an act in 1850. Finally, Virginia never passed a MWPA; there is no evidence that a bill was ever considered (Warbasse [1987], p. 137-181).

B.6 Impact on inter-marital bargaining

How did the passing of the laws affect inter-marital bargaining? We have argued that the first wave of MWPAs that we consider in this paper was not meant to expand women’s rights. They primarily protected the wife’s property from the husband’s creditors and they did not change any other features of the common law. Coverture remained in place, and the wife gained no economic independence over her separate property; the husband remained in charge. The MWPA therefore had little direct impact on marital bargaining power. Some opponents of the MWPAs argued that the wife was made more independent by the acts, but proponents disagreed:
The argument that women will, by the passage of such a law, be made more independent, and the husband less so, we cannot appreciate. We cannot see wherein the husband is detracted from by a law of the State saying that his wife’s property shall not be taken from her to pay his debts, or those whom he has been security for – nor can we see wherein he is detracted from, or made less the superior, when the same law gives to his management and control the same property, for him and his family to enjoy the increase and yearly income thereof,

*The truth is, that no man should wish for more than this* (emphasis added).\(^{18}\)

Nevertheless, it is possible that the laws strengthened the wife’s bargaining position in an indirect way. The passage of 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.\(^{19}\)

### B.7 Overview relevant Married Women’s Property Legislation

#### B.7.1 Alabama

The first legislation passed in Alabama related to the protection of married women’s property was an act passed on January 31, 1846 that stipulated that the wife’s property would not be liable for the husband’s debts contracted before marriage (Kelly 1882, p. 291). We reproduce the relevant section of this act.\(^{20}\)

*An Act For The Relief Of Married Women In Certain Cases, And For Other Purposes*


\(^{19}\)It is unlikely that the passage of a MWPA significantly altered the costs and benefits of a separation that did not involve abandonment. As long as the husband kept supporting his family “according to his means” (Lebsock 1984, p. 24), it is unlikely that the wife would have been able to obtain control over here separate property, even after the passage of an act.

\(^{20}\)All acts are in Heinoline’s Session Laws Library.
Sec. 6 That the property of the wife at the time of the marriage or which she may receive by descent, bequest, or gift, shall not be subject to the debts or liabilities of the husband, contracted or incurred before the marriage; nor shall the husband be liable to pay the ante nuptial contracts or liabilities of the wife, further than the property received by the wife; but such property received by the wife, shall be liable to her debts notwithstanding the termination of the coverture.

Approved, 31st January, 1846

This legislation was further expanded in 1848, when a new act was passed “creating a separate estate in the wife, providing that all property held by a woman at her marriage, or subsequently acquired by her, should be her separate estate, exclusive of any right of the husband” (Kelly 1882, p. 291). This is the act we use in the paper. The act makes clear that it does not allow for the transfer of assets from husband to wife (in all likelihood to protect creditors). We reproduce the act in full text below. Sections 1 and 5 are the most relevant.

An Act Securing To Married Women Their Separate Estates, And For Other Purposes.

Sec. 1. Be it enacted by the Senate and House of Representatives of the State of Alabama in General Assembly convened, That if any woman, before and at the time of marriage, shall have and own, any property, or estate, whether the same be real, personal or mixed, in possession, remainder or reversion, or if any such estate shall, after marriage, by descent, gift, demise, or otherwise, accrue to any woman: All such estate and property, shall be taken, held and esteemed in law, as the separate estate of such woman, and for her sole and separate use notwithstanding her coverture - and no husband shall by his marriage, acquire a right to the property which his wife had upon his marriage, or which she may after acquire by descent, gift, demise, or otherwise, except as is hereafter provided for.

Section 2. Be it further enacted, That whenever any woman, upon or after her
marriage shall have property, as provided for in the first section of this act, the
said property shall be taken, esteemed and held, as trust property, and subject
to, and governed by, all the rules of law now governing trust estates.

Sec. 3. Be it further enacted, That upon the death of any woman intestate,
and having a separate estate, as provided by the first section of this act, leaving
a husband living, such husband shall be entitled to one-half of such estate,
absolutely, if the said estate be personal - and for his life, if said estate be real.

Sec. 4. Be it further enacted, That if any woman having a separate estate
as provided for in this act, shall survive her husband, and such separate estate
is equal to her dower or child’s part, in her husband’s estate, then she shall not
be entitled to dower or child’s part; but if such separate estate be less than her
dower or child’s part; she shall have allotted to her, as dower or child’s part, so
much, as with such separate estate, would be equal to dower or child’s part, had
there been no such separate estate.

Sec. 5. Be it further enacted, That for all articles of family supply or used
in the family, the husband shall be severally, or the husband and wife jointly
liable and suable at law Provided, that nothing in this act shall be so construed
as to authorize the transfer of any property, whether real or personal from the
husband to the wife either by virtue of sale or gift.

Approved, March 1, 1848.

B.7.2 Florida

Although Florida had a Spanish legal heritage, it did not opt to introduce a community
property system like Louisiana and Texas had done. Marriages concluded after secession
from Spain in 1819 therefore fell under common law. In 1845, Florida passed legislation
that “provided that when a woman married, her real and personal property was to be kept
separate from her husband’s and was not be liable for his debts. Women might also acquire
property after marriage” (Warbasse [1987], p. 163). We reproduce the act in full text below.
Sections 1,2 and 4 are most relevant.

No. IX. An Act To Secure Certain Rights To Women.
SECTION 1. Be it enacted by the Governor and Legislative Council of the Territory of Florida, That hereafter when any female, a citizen of this Territory, shall marry, or when any female shall marry a citizen of this Territory, the female being seized or possessed of real or personal property, her title to the same shall continue separate, independent, and beyond the control of her husband, notwithstanding her coverture and shall not be taken in execution for his debts: Provided, however, that the property of the female shall remain in the care and management of her husband.

Sec. 2. Be it further enacted, That married women may hereafter become seized or possessed of real and personal property, during coverture, by bequest, demise, gift, purchase, or distribution; subject however to the restrictions, limitations, and provisions, contained in the foregoing section.

Sec. 3. Be it further enacted, That any married Woman having separate and independent title to property, under and by virtue of this act, shall not be entitled to sue her husband for the rent, hire, issues, proceeds or profits, of said property, nor shall the husband charge for his management and care of the property of his wife.

Sec. 4. Be it further enacted, That the husband and wife shall join in all sales, transfers, and conveyances of the property of the wife, and the real estate of the wife shall only be conveyed by the joint deed of the husband and wife, duly attested, authenticated, and admitted to record, according to the laws of Florida, regulating conveyances of real property.

Sec. 5. Be it further enacted, That the husband shall not be held or deemed liable to pay the debts of his wife, contracted prior to any marriage hereafter to be solemnized in this Territory, but the property of the wife shall be subject to such debts.

Sec. 6. Be it further enacted, That if married women die in this Territory possessed of real and personal property, or of either species of property, the husband shall take the same interest in her said property, and no other, which a child would take and inherit, and if the wife should die without children, then the
surviving husband shall be entitled to administration, and to all her property, both real and personal.

Sec. 7. Be it further enacted, That all the property real and personal, which shall belong to the wife at the time of her marriage, or which she may acquire in any of the modes hereinbefore mentioned, shall be inventoried and recorded in the County clerk’s office of the county in which such property is situated, within six months after such marriage, or after said property shall be acquired by her at the peril of becoming liable for her husband’s debts, as if this act had not been passed: Provided, that any omission to make said inventory and Record, shall in no case confer any rights upon her husband.

Approved March 6th 1845.

B.7.3 Kentucky

Under common law, the wife’s real estate was protected from creditors. However, the income from that real estate, embodied by the husband’s “life estate” in that property, accrued to the husband and could be seized by creditors. The Kentucky Act of 1846 extended the common law protection to the income that was generated by the real estate, stating that the husband’s life estate in his wife’s property was not to be liable for his debts, contracted before or after marriage. Furthermore, it gave slave property (and the income it generated) the same protection as real estate (Warbasse [1987], p. 173).

We reproduce the act in full text below, note the explicit mention of the husband’s life estate in his wife’s property (emphasis added).

Chapter 368, An Act Further To Protect The Rights Of Married Women.

Be it enacted by the General Assembly of the Commonwealth of Kentucky, That the slave or slaves of a married woman shall, hereafter, within this Commonwealth, be held and taken to be real estate, in so far that no slave or slaves, or the increase thereof, which any such married woman may have at the time of her marriage, or which may come, descend, or be devised or given to her during her coverture, shall be liable to the debts of her husband, or be attached, levied
on, or sold, for his debts or liabilities of any sort or kind, whether such debts or liabilities accrued before or after marriage;

nor shall the life estate of the husband, his wife living, be levied on, executed, or sold, for any such debts or liabilities: Provided, however, That the slave or slaves of any married woman, owned at the time of her marriage, or which may be acquired by her in any of the modes aforesaid, shall, in no case, be exempt from the payment of her debts and liabilities, created or arising before marriage, but that such slave or slaves shall, notwithstanding, remain liable to such debts or liabilities, by the appropriate remedy at law, or in chancery: And, provided, further, That the slave or slaves owned by any married woman prior to the marriage, or acquired by her in any of the modes aforesaid, after the marriage, shall be liable for all debts by her and her husband, contracted or created jointly, in writing, for necessaries furnished her or any member of her family.

Sec. 2. Be it further enacted, That the husband and wife may dispose of the slave or slaves of the wife in the same way wife that they may, by deed, dispose of the lands of the wife, and with like limitations and restrictions, according to the existing laws; and on the death of the wife, such slave or slaves shall descend to her heirs at law as lands descend by the laws of this Commonwealth, subject to a life estate of the husband surviving, for his life and no longer.

Sec. 3. Be it further enacted, That the lands of no married woman within this Commonwealth, which she may have owned at the time of her marriage, or which may come, or be or be given, devised or descend to her during the marriage, shall be subject to the debts of the husband, or be levied on, attached or sold, or executed, for any of his debts, created or arising either before or after the marriage: Provided. nevertheless, That all such, the lands of the wife, shall be liable and subject to the debts and liabilities of the wife, contracted or created before the marriage;

but in no case shall the curtesy, or life estate of the husband, be sold by process of law, except after the death of the wife, the husband surviving: Provided, That the husband and wife may sell and convey, or dispose of, the lands of the wife,
by their deed acknowledged and authenticated, and recorded according to the existing laws: And, provided, further, That the lands of the wife shall be liable for all debts by her and her husband jointly contracted or created, in writing, for necessaries furnished her or any member of her family.

Sec. 4. Be it further enacted, That the estate and property of the husband shall not be subject to the payment of any contracts, liabilities, damages, or debts, incurred by the wife prior to marriage.

Approved February 23, 1846.

**B.7.4 Mississippi**

Mississippi was the first of the Southern states to introduce a Married Women’s Property Act in 1839. This act was relatively conservative. It confirmed that women could hold property in their own name (as long as it did not originate from the husband), a measure that likely sought to strengthen the legal position of prenuptial contracts and separate estates under equity. Apart from that, it only provided limited protection. It gave the wife’s slaves the same common law protection as real estate, exempting them from outside claims. However, the income generated by this property vested unconditionally in the husband and was liable for his debts (Warbasse [1987], p. 142).

The act was amended in February 1846, when the protection of the wife’s property was significantly expanded. The new legislation now explicitly protected the profits derived from the wife’s assets against the claims of the husband’s creditors. In addition, all personal property in the wife’s name that was necessary to operate a plantation was now also protected. In the paper, we use the passing of the Act of 1846. We reproduce both laws in full text below. The most relevant sections of the 1846 act are indicated in bold:

**Chapter 46. An Act For The Protection And Preservation Of The Rights And Property Of Married Women.**

**SECTION I.** Be it enacted, by the Legislature of the State of Mississippi, That any married woman may become seized or possessed of any property, real or personal, by direct bequest, demise, gift, purchase, or distribution, in her own
name, and as of her own property: Provided, the same does not come from her husband after coverture.

Sec. 2. And be it further enacted, That hereafter when any woman possessed of a property in slaves, shall marry, her property in such slaves and their natural increase shall continue to her, notwithstanding her coverture; and she shall have, hold, and possess the same, as her separate property, exempt from any liability for the debts or contracts of the husband.

Sec. 3. And be it further enacted, That when any woman, during coverture, shall become entitled to, or possessed of, slaves by conveyance, gift, inheritance, distribution, or otherwise, such slaves, together with their natural increase shall enure and belong to the wife, in like manner as is above provided as to slaves which she may possess at the time of marriage.

Sec. 4. And be it further enacted, That the control and management of all such slaves, the direction of their labor, and the receipt of the productions thereof, shall remain to the husband, agreeably to the laws heretofore in force. All suits to recover the property or possession of such slaves, shall be prosecuted or defended as the case may be, in the joint names of the husband and wife. In case of the death of the wife, such slaves descend and go to the children of her and her said husband, jointly begotten; and in case there shall be no child born to the wife during such her coverture, then such slaves shall descend and go to the husband and to his heirs.

Sec. 5. And be it further enacted, That the slaves owned by a feme covert under the provisions of this act, may be sold by the joint deed of husband and wife, executed, proved, and recorded, agreeably to the laws now in force in regard to the conveyance of the real estate of feme coverts, and not otherwise.

Approved, February 15, 1839.

SECTION 1. Be it enacted by the Legislature of the State of Mississippi, That the fourth and fifth sections of the above recited act, be and the same are hereby repealed.

SEC. 2. Be it further enacted, That the rents, issues and profits of real estate owned by any married woman, in her own right, at the time of her marriage, while sole, or subsequently acquired by her under the provisions of the first section of the act to which this is an amendment, shall inure to the sole and separate use and benefit of such married women.

SEC. 3. Be it further enacted, That when any married woman shall own and possess in her own property to her own right a plantation and slaves, it shall be lawful for her to acquire, and to hold and possess in her own right, exempt from liability for the debts and contracts of her husband, all such stock, farming utensils and implements of husbandry, as shall be necessary for successfully conducting the business and operations of planting.

SEC. 4. Be it further enacted, That the products and proceeds of the labor of all slaves owned by a married woman, in her sole and separate right, shall inure to her sole and separate use and benefit; and it shall be competent for her jointly with her husband, to make any contract for the sale or hire of any such slaves, for their necessary clothing, maintenance, care and support, and for the employment of any agent or overseer for their management and control; and all contracts for the purchase of supplies for the plantation and slaves, or for the slaves alone, owned by any married woman, made by the husband and wife, or by either of them, either expressed or implied, shall be obligatory upon the husband and wife, and may be enforced against the proceeds and income of the separate property of such married woman: Provided, that all sales of any such slaves shall be evidenced by bill of sale under seal, acknowledged by such married woman, as deeds of married women are required by law to be acknowledged.

SEC. 5. Be it further enacted, That all suits for recovery of the property or possession of such slaves, shall be prosecuted or defended in the joint names of the husband and wife; and all suits upon contracts in relation to, or affecting
the separate property of the wife, either real or personal, shall be prosecuted or
defended in the joint names of the husband and wife, and may be prosecuted in
the courts of common law jurisdiction, in all cases in which said courts would have
jurisdiction of the subject matter in controversy between unmarried persons.

SEC. 6. Be it further enacted, That it shall be competent for a married
woman, by deed of conveyance executed jointly with her husband, according to
the laws of this State in relation to deeds made by feme coverts, to sell and
convey her real estate as fully and effectually as she could if she were unmarried.
If any married woman shall die seized and possessed of real estate or freehold,
aquired under the provisions of the act to which this is an amendment, her
husband surviving shall be entitled to tenancy of the same, by courtesy as in
other cases; and if she die possessed of slaves or other personal chattels as her
separate property leaving issue of her body, either by a former husband, or by
her surviving husband, such slaves and other personal chattels shall descend to
her child or children, in equal shares; but if she die without issue surviving her,
the same slaves and other personal property, shall vest in the surviving husband.

SEC. 7. Be it further enacted That a schedule of the real and personal
estate of any married woman now owned separately from her husband, under the
provisions of this act, shall be recorded in the clerk’s office of the probate court
of the county in which such property is situated, within six months after the
passage of this act, and a similar schedule shall, from time to time, be recorded
within three months after the acquisition of any property, real or personal, by
any such married woman; and for making such record, the clerk of probate shall
receive the same fees as they are entitled to for recording deeds.

SEC. 8. Be it further enacted, That no husband married after the passage of
this act, shall be held liable or bound for any debt contracted by his wife previous
to marriage, until all the separate property of said wife shall be exhausted; nor
shall said husband be liable, either at law or equity, for any debt contracted by
his wife after marriage, if, at the time of contracting said debt, the wife held
separate property, under the provisions of this act.
SEC. 9. And be it further enacted, That this act shall take effect and be in force from and after its passage.

Approved February 8, 1846.

B.7.5 North Carolina

North Carolina passed its first Married Women’s Property Act in 1849. This act simply extended the common law protection of wife’s real estate by exempting the income it generated from outside claims. The act made no provisions for other forms of property. The act aimed to operate somewhat retroactively by protecting newly acquired property of women already married. It is questionable whether this held up in court – the 1868 state constitution makes no mention of this stipulation. We reproduce the act in full text.

Chapter XLI: An Act Making Better And More Suitable Provisions For Femes Covert

Sec. 1. Be it enacted by the General Assembly of the State of North Carolina, and it is hereby enacted by the authority of the same, That from and after the passage of this act, when, without ever a marriage shall take place, all the lands or real estate owned by the feme covert, at the time of marriage, and all lands or real estate which she may subsequently acquire, by will, devise, inheritance, or otherwise, shall not be subject to be sold or leased by the husband for the term of his own life, or any less term of years, except by and with the consent of his wife, first had and obtained, to be ascertained and effectuated by privy examination, according to the rules now required by law for the sale of lands by deed belonging to fames covert.

Sec. 2. Be it further enacted, That no interest of the husband whatever, in such lands or real estate shall be subject to sale to satisfy any execution obtained against him; and all such sales are hereby declared to be null and void, both in law and equity.

Soc. 3. Be it further enacted, That all the lands or real estate which may be acquired on and after the first day of March next by femes covert already married,
either by gift, devise or inheritance, shall be subject to the same conditions, limitations and exemptions, as the lands or real estate mentioned in the first and second sections of this act.

[Ratified 29th day of January, 1849.]

B.7.6 Tennessee

Like North Carolina, Tennessee only protected a wife’s real estate – exempting the income it generated from outside claims. The act was passed in 1850, we reproduce it in full text.

Chapter XXXV. An Act To Prevent The Sale Of The Interest Of Femes Covert In Real Estate.

SECTION 1. Be it enacted by the General Assembly of the State of Tennessee, That from and after the passage of this act, when any feme covert shall, either before or after marriage, become entitled to any interest in any lands, tenements, hereditaments, or other real estate whatever, either by gift, devise, descent, or in any other mode, it shall not be lawful, by virtue of any judgment, decree, or execution against the husband of such feme covert to sell or dispose of his interest in the real estate of the wife; or by virtue of the judgment, sentence, or decree of any court in this State to dispossess or eject the husband and wife from the possession of the real estate of the wife acquired in any manner, either before or after marriage.

SEC. 2. Be it enacted, That the exemption of the husband’s interest in his wife’s lands, as prescribed in the first section of this act from sale, shall not extend beyond his wife’s life, nor shall the husband sell the same during his wife’s lifetime, without her joining in the conveyance in the manner prescribed by existing laws, in which femes covert shall convey lands.

Landon C. Haynes, Speaker of the House of Representatives.

John F. Henry, Speaker of the Senate.

Passed, January 10, 1850.
B.8 References


   University of Wisconsin
C Theory Appendix

C.1 Proofs: Main Model

**Proof.** Proposition 1:

The household solves the following problem:

\[
\begin{align*}
\max_{c_0, e, \rho_g, \rho_b} & \quad \log c_0 + \frac{1}{2} \theta [\log R(w - c_0 + e) - \rho_g e] + \frac{1}{2} \theta [\log R(w - c_0 + e) - \rho_b] e \\
& - \lambda (2 - \rho_g - \rho_b) \\
& - \mu [\rho_g e - (R - \beta \Delta r)(w - c_0 + e)] \\
& - \chi (-e)
\end{align*}
\]

The first order conditions are:

- \(c_0\):
  \[
  \frac{1}{c_0} - \frac{\frac{1}{2} \theta R}{R(w - c_0 + e) - \rho_g e} - \frac{\frac{1}{2} \theta R}{R(w - c_0 + e) - \rho_b e} - \mu (R - \beta \Delta r) = 0
  \]

- \(e\):
  \[
  \frac{\frac{1}{2} \theta (R - \rho_g)}{R(w - c_0 + e) - \rho_g e} + \frac{\frac{1}{2} \theta (R - \rho_b)}{R(w - c_0 + e) - \rho_b e} - \mu (\rho_g - R + \beta \Delta r) + \chi = 0
  \]

- \(\rho_g\):
  \[
  \frac{1}{R(w - c_0 + e) - \rho_g e} + \lambda - \mu e = 0
  \]

- \(\rho_b\):
  \[
  \frac{1}{R(w - c_0 + e) - \rho_b e} + \lambda = 0
  \]

**Case 1:** IC constraint is slack \((\beta < \frac{r - 1}{\Delta r})\)

From the F.O.C.’s for \(\rho_g\) and \(\rho_b\), we obtain the following:

\[
\mu = \frac{1}{2} \theta \left[ \frac{1}{R(w - c_0 + e) - \rho_b e} - \frac{1}{R(w - c_0 + e) - \rho_g e} \right]
\]

Suppose that the incentive compatibility constraint is slack, so \(\mu = 0\). Then, expression (3) implies that:

\[
R(w - c_0 + e) - \rho_b e = R(w - c_0 + e) - \rho_g e
\]

Or, consumption is equalized in both states of the world. Then, from the F.O.C.’s for \(\rho_g\) and \(\rho_b\), and imposing the constraint that \(\rho_b = 2 - \rho_g\), we get the following:

\[
\rho_g = 1 + \frac{\Delta r}{2} + \frac{\Delta r (w - c_0)}{2 e}
\]

Now, substituting all of this into the expression for \(\partial U / \partial e\) (and assuming that the \(e > 0\) constraint is slack, so \(\chi = 0\)), we find the following:

\[
\frac{\partial U}{\partial e} = \frac{\frac{1}{2} \theta}{R(w - c_0 + e) - \rho_g e} (R - \rho_g + R - 2 + \rho_g)
\]

\[
= \frac{\frac{1}{2} \theta}{R(w - c_0 + e) - \rho_g e} (R + R - 2) > 0
\]
So, the household will want to borrow $e = \infty$, which is intuitive, as it is able to smooth consumption across states and the project has positive expected returns. Next, we check when this $e$ and $\rho_g$ will satisfy the incentive compatibility constraint so that $\mu = 0$:

$$
\frac{R}{e}(w - c_0 + e) - \rho_g e - \beta \Delta r (w - c_0 + e) > 0
$$

$$
\Rightarrow \frac{R}{e}(w - c_0) + R - 1 - \Delta r - \frac{\Delta r (w - c_0)}{2e} - \frac{\beta \Delta r (w - c_0)}{e} - \beta \Delta r > 0
$$

Letting $e$ go to $\infty$, we arrive at

$$
R - 1 - \frac{\Delta r}{2} - \beta \Delta r = r - 1 - \beta \Delta r > 0
$$

This will hold iff $\beta < \frac{r - 1}{\Delta r}$.

Case 2: IC constraint is binding - outside investment is infinite ($\frac{r - 1}{\Delta r} < \beta < \frac{2r - 2}{\Delta r}$)

Now suppose that $\mu > 0$. Substituting expression (3) for $\mu$, the constraint that $\rho_g + \rho_b = 2$, and the incentive compatibility constraint (2) into the F.O.C. for $e$, we get the following (after some algebra):

$$
\frac{\partial U}{\partial e} = \frac{\theta}{2} w - c_0 + e - \frac{\theta}{2}(\beta \Delta r - 2r - 1) + \chi
$$

$$
= \frac{\theta}{C} [(2r - 1 - \beta \Delta r)(w - c_0) + e(2r - 2 - \beta \Delta r)] + \chi
$$

(5)

Here, $C \equiv (w - c_0 + e) [(2r - \beta \Delta r)(w - c_0 + e) - 2e] > 0$, as this multiplies consumption in the good and bad states of the world, which must both be greater than zero. In addition, $\beta \Delta r < 2r - 1$. To see this, note that, by assumption, $\beta < 1$. In addition, the restriction that $R > \frac{1}{2 - 1/R} > \frac{1}{2}$ guarantees that $\frac{2r - 1}{\Delta r} > 1$, since

$$
\frac{2r - 1}{\Delta r} = \frac{R}{R - \frac{1}{2}} \frac{R - 1}{R - \frac{1}{2}} > 1
$$

(6)

Expression (5) therefore implies that if $\beta \Delta r < 2r - 2$, then $\partial U/\partial e > 0 \forall e$, so the household will want to borrow an infinite amount. Because the incentive compatibility constraint holds with equality, this implies the following equilibrium value of $\rho_g$:

$$
\rho_g e = (R - \beta \Delta r)(w - c_0) + (R - \beta \Delta r) e
$$

$$
\Rightarrow \rho_g = (R - \beta \Delta r) \frac{w - c_0}{e} + R - \beta \Delta r \to R - \beta \Delta r
$$

(7)

So, if $\frac{r - 1}{\Delta r} < \beta < \frac{2r - 2}{\Delta r}$, the household will borrow an infinite amount but will be constrained in the $\rho_g$ it can select by the incentive compatibility constraint.

Case 3: IC constraint is binding - outside investment is limited ($\beta > \frac{2r - 2}{\Delta r}$)
When $\beta > \frac{2r - 2}{\Delta r}$, the F.O.C. for $e$ is satisfied when
\[ e = \frac{2r - 1 - \beta \Delta r}{2 - 2r + \beta \Delta r}(w - c_0) > 0 \]
and $\chi = 0$. So, the household will take on a non-zero, non-infinite loan of exactly this size if $\beta$ is the range specified in the proposition.

Substituting the solution for $e$, the above expression for $\mu$, and the constraint that $\rho_g + \rho_b = 2$ into the F.O.C. for $c_0$, we get $c^*_0 = \frac{1}{1+\theta}w$, which gives us the expression for $e^*$ in the proposition. Substituting all of this into the F.O.C. for $\rho_g$, we get the $\rho_g$ in the proposition.

\section*{Proof. Proposition 2:}
With incomplete markets, it is clear that the household will choose a risk-free loan, as a risky loan would leave it with zero consumption in the bad state of the world and $U = -\infty$, So, the household’s maximization problem can be written as follows:
\[
\max_{c_0, l} \log c_0 + \frac{1}{2} \theta \log \left[ R(w - c_0 + l) - l \right] + \frac{1}{2} \theta \log \left[ R(w - c_0 + l) - l \right]
\]
The first order conditions are:
\[
c_0 : \quad \frac{1}{c_0} - \frac{\theta R}{R(w - c_0 + l) - l} - \frac{\theta R}{R(w - c_0 + l) - l} = 0
\]
\[
l : \quad \frac{\theta (R - 1)}{R(w - c_0 + l) - l} + \frac{\theta (R - 1)}{R(w - c_0 + l) - l} = 0
\]
After some algebra, the FOC for $l$ simplifies to the following:
\[
l = \frac{RR - r}{(R - 1)(R - 1)}(w - c_0) \tag{8}
\]
Notice that, for the household to be willing to take on a positive amount of debt, returns on the risky project must be such that $R > r$. This is guaranteed by the assumption that $R > \frac{1}{2 - 1/R}$.

Substituting this expression into the FOC for $c_0$ we arrive at $c_0 = \frac{w}{1+\theta}$. Substituting this into the above expression for $l$, we get the expression for $l^*$ in the proposition.

Notice that this always satisfies the incentive compatibility constraint:
\[
R(w - c_0 + l) - l > \beta \Delta r(w - c_0 + l) \tag{9}
\]
First, notice that $l < R(w - c_0 + l)$:
\[
R(w - c_0 + l) - l = \frac{R(r - 1)}{(R - 1)(1 - R)} - \frac{RR - r}{(R - 1)(1 - R)} = \frac{(1 - R)(R - R)}{2(R - 1)(1 - R)} > 0
\]
So,
\[
\overline{R}(w - c_0 + l) - l > \overline{R}(w - c_0 + l) - \underline{R}(w - c_0 + l) = \Delta r(w - c_0 + l) > \beta \Delta r(w - c_0 + l)
\]

\textbf{Proof.} Lemma 3:

We only need to prove that \(e^* > l^*\), since \(c^*_0\) is the same under complete and incomplete contracts. From Propositions 1 and 2:
\[
e^* = \left(\frac{\theta}{1 + \theta}\right) \frac{2r - 1 - \beta \Delta r}{\beta \Delta r - 2(r - 1)} w
\]
\[
l^* = \left(\frac{\theta}{1 + \theta}\right) \frac{\overline{RR} - r}{(R - 1)(1 - R)} w
\]

So, we need to show that the following holds for all \(\beta \in \left[\frac{2r - 2}{\Delta r}, 1\right]:\)
\[
\frac{2r - 1 - \Delta r}{\Delta r - 2r + 1} > \frac{\overline{RR} - r}{(R - 1)(1 - R)} \tag{10}
\]
First, recall from expression (6) that \(\beta \Delta r < 2r - 1\). Second, notice the left hand side of the inequality we are trying to prove is strictly decreasing in \(\beta\), as the numerator is strictly decreasing in \(\beta\) and the denominator is strictly increasing in \(\beta\). So, if the following inequality holds, this proves the proposition:
\[
\frac{2r - 1 - \Delta r}{\Delta r - 2r + 1} - \frac{\overline{RR} - r}{(R - 1)(1 - R)} > 0
\]
After some algebra, the left hand side of this inequality simplifies to:
\[
\frac{1 - R}{2(1 - R)(R - 1)} > 0
\]
So, borrowing always increases under complete markets relative to incomplete markets with no protection. This result is self evident when \(\beta < \frac{2r - 2}{\Delta r}\), since in this case borrowing under complete markets is infinite. ■

\textbf{Proof.} Proposition 4:

Under incomplete contracts with protection, the household has three options: (1) contract a risk-free loan; (2) contract a risky loan; (3) do not borrow. If the household opts for a risk-free loan, it will solve a maximization problem similar to that in Proposition 2, subject to the additional constraint that \((1 - R)l \leq R(w_M - c_0)\). If the household opts for a risky loan, it will borrow more than \(\frac{R}{1 - R}(w_M - c_0)\) and the lender will not be able to recover the full amount of his loan in the bad state of the world. In response, he will charge a risk premium \(\rho\) that satisfies the following zero profit condition:
\[
R(w_M - c_0 + l) + \rho l = 2l \tag{11}
\]
To support risky lending, the borrower’s incentives must always be compatible with repayment of the loan in the good state of the world:
\[
\overline{R}(w_M - c_0 + l) - \rho l \geq \beta \Delta r(w_M - c_0 + l) \tag{12}
\]
Case 1: $w_M/w_F < \phi_1$

We first consider the case in which households want to consume more than $w_M$ at $t = 0$. In this case, the household consumes of all of its pledgeable collateral, and the incentive compatibility constraint will never be satisfied for a loan that offers the lender a risk-free rate of return, so $l = 0$. To see this, combine (11) and (12) and set $w_M - c_0 = 0$ to notice that

$$(\bar{R} - \beta \Delta r)l - (2 - R)l < [\bar{R} - (2r - 2)] l - (2 - R)l = 0$$

With no borrowing, the household’s problem simplifies to:

$$\max_{c_0} \log c_0 + \frac{1}{2} \theta \log [\bar{R}(w_M + w_F - c_0)] + \frac{1}{2} \theta \log [\bar{R}(w_M + w_F - c_0)]$$

We solve this problem and check when $w_M - c_0 \leq 0$. The first order condition is:

$$\frac{1}{c_0} - \frac{\frac{1}{2} \theta \bar{R}}{\bar{R}(w_M + w_F - c_0)} - \frac{\frac{1}{2} \theta \bar{R}}{\bar{R}(w_M + w_F - c_0)}$$

The solution is:

$$c_0 = \frac{1}{1 + \theta}(w_M + w_F)$$  \hspace{1cm} (13)

Such a solution is only consistent with zero borrowing if $w_M - c_0 \leq 0$, or if $\frac{w_M}{w_F} \leq \frac{1}{\theta}$. Next, we solve the household’s problem under the constraint that borrowing is weakly positive, and we will verify that, at the point where borrowing is exactly reduced to zero, $\frac{w_M}{w_F} < \frac{1}{\theta}$.

Case 2: $\phi_1 < w_M/w_F < \phi_2$

Here, we consider the case in which $w_M - c_0 > 0$, so borrowing is possible, and consumption in the bad state of the world is simply $\bar{R}w_F$. The household maximizes utility subject to the lenders’ zero profit condition (11), and the household’s incentive compatibility constraint (12):

$$\max_{c_0, l, \rho} \log c_0 + \frac{1}{2} \theta \log [\bar{R}(w_M + w_F - c_0 + l) - \rho l] + \frac{1}{2} \theta \log [\bar{R}(w_F)]$$

$$- \lambda(2l - \rho l - \bar{R}(w_M - c_0 + l))$$

$$- \mu [\rho l - (\bar{R} - \beta \Delta r)(w_M - c_0 + l)]$$

$$- \chi(-l)$$  \hspace{1cm} (14)

$$- \lambda(2l - \rho l - \bar{R}(w_M - c_0 + l))$$

$$- \mu [\rho l - (\bar{R} - \beta \Delta r)(w_M - c_0 + l)]$$

$$- \chi(-l)$$  \hspace{1cm} (15)

The first order conditions are:

$$c_0 : \quad \frac{1}{c_0} - \frac{\frac{1}{2} \theta \bar{R}}{\bar{R}(w_M + w_F - c_0 + l) - \rho l} - \mu(\bar{R} - \beta \Delta r) = 0$$

$$l : \quad \frac{\frac{1}{2} \theta(\bar{R} - \rho)}{\bar{R}(w_M + w_F - c_0 + l) - \rho l} - \mu(\rho - \bar{R} + \beta \Delta r) + \chi = 0$$

$$\rho : \quad \frac{-\frac{1}{2} \theta l}{\bar{R}(w_M + w_F - c_0 + l) - \rho l} + \lambda - \mu l = 0$$
We first prove that the IC constraint (15) always binds. Suppose it is slack and $\mu = 0$. Then, imposing that the lender's zero profit condition (14) holds with equality, the F.O.C. for $l$ would be the following:

$$\frac{1}{2} \theta \left[ \frac{R}{\psi} - (2 - R - \frac{w_M - c_0}{l}) \right] + \chi = 0$$

Because $R + R > 2$ and $\chi \geq 0$, this will never hold. So, it must be the case that the IC constraint (15) holds with equality.

Given that both the IC constraint and (14) need to hold with equality, the solution for the optimal loan size is given by:

$$(R - \beta \Delta r)(w_M - c_0 + l) = \rho l = 2l - R(w_M - c_0 + l)$$

$$\Rightarrow \hat{l} = \frac{2r - \beta \Delta r}{2 - 2r + \beta \Delta r}(w_M - c_0)$$

(16)

Given this, consumption in the good state of the world simplifies to:

$$R(w_M - c_0 + l) - \rho l = \frac{2\beta \Delta r}{2 - 2r + \beta \Delta r}(w_M - c_0) + \tilde{R}w_F$$

and we can rewrite the problem in the following way:

$$\max_{c_0} \log c_0 + \frac{\theta}{2} \log \left[ \frac{2\beta \Delta r}{2 - 2r + \beta \Delta r}(w_M - c_0) + \tilde{R}w_F \right] + \frac{\theta}{2} \log(\tilde{R}w_F)$$

For simplicity, define $\psi \equiv \frac{2\beta \Delta r}{2 - 2r + \beta \Delta r}$. Then we can write the F.O.C. for $c_0$ as follows:

$$\frac{1}{c_0} - \theta \frac{\psi}{\psi(w_M - c_0) + \tilde{R}w_F} = 0$$

This determines optimal consumption in $t = 0$:

$$\hat{c}_0 = \left( \frac{2}{2 + \theta} \right) \left\{ w_M + \frac{\tilde{R}}{\psi}w_F \right\} = \left( \frac{2}{2 + \theta} \right) \left\{ w_M + \frac{\tilde{R}(2 - 2r + \beta \Delta r)}{2\beta \Delta r}w_F \right\}$$

(17)

The expressions for $\hat{l}$ and total investment in the proposition follow directly from expressions (16) and (17).

Next, we check whether $w_M - c_0 > 0$. This is true iff

$$\frac{\theta}{2 + \theta} w_M - \left( \frac{2}{2 + \theta} \right) \frac{\tilde{R}(2 - 2r + \beta \Delta r)}{2\beta \Delta r}w_F > 0 \Rightarrow \frac{w_M}{w_F} > \frac{\tilde{R}(2 - 2r + \beta \Delta r)}{\theta \beta \Delta r}$$

We verify that this cutoff is compatible with our findings from Case 1. In particular, we need $\frac{w_M}{w_F} \leq \frac{1}{\theta}$ for all $\frac{w_M}{w_F} \leq \frac{\tilde{R}(2 - 2r + \beta \Delta r)}{\theta \beta \Delta r}$. Notice that $\frac{\tilde{R}(2 - 2r + \beta \Delta r)}{\beta \Delta r} < 1$, which implies
that \( \frac{R(2-2r+\beta\Delta r)}{\theta\beta\Delta r} < \frac{1}{\theta} \):

\[
\frac{R(2-2r+\beta\Delta r)}{\beta\Delta r} - 1 = \frac{1}{\Delta r} \left[ \frac{R(2-2r+\beta\Delta r) - \Delta r}{\beta} \right] = \frac{1}{\Delta r} \left[ -\frac{R(2-2r)}{\beta} + R\Delta r - \Delta r \right]
\]

\[
< \frac{1}{\Delta r}(-R(2-2r) + R\Delta r - \Delta r) = \frac{1}{\Delta r}(R - 2RR)
\]

\[
= \frac{2}{\Delta r}(r - RR) < 0 \quad \text{(18)}
\]

Thus, zero borrowing is certainly preferable to risky borrowing when \( \frac{w_M}{w_F} \leq \frac{R(2-2r+\beta\Delta r)}{\theta\beta\Delta r} \), and zero borrowing may be preferable to risky borrowing when \( \frac{w_M}{w_F} < \frac{1}{\theta} \). So, the household will switch from no borrowing to risky borrowing when

\[
w_M/w_F = \phi_1 \in \left( \frac{R(2-2r+\beta\Delta r)}{\theta\beta\Delta r}, \frac{1}{\theta} \right). \quad \text{(19)}
\]

Case 3: \( \frac{w_M}{w_F} > \phi_2 \)

Next, we consider the case in which a risk-free loan is optimal with protection. We first need to derive when a risk-free loan is attainable. This is the case when the optimal loan size from Proposition 2 (no protection) is risk-free even when returns associated with \( w_F \) are protected:

\[
\left( \frac{\theta}{1+\theta} \right) \frac{RR - r}{(R-1)(1-R)}(w_M + w_F) \leq \frac{R}{1-R} \left\{ \frac{\theta}{1+\theta} w_M - \frac{1}{1+\theta} w_F \right\} \quad \text{(20)}
\]

This is true iff:

\[
\frac{w_M}{w_F} \geq \frac{2[R - 1 + \theta(RR - r)]}{\theta\Delta r} = \phi_2 \quad \text{(21)}
\]

We know that, as \( w_F \to 0 \), a risk free loan is preferable, since utility in the bad state of the world with a risky loan approaches \(-\infty\). So, there exists some \( \phi_2 \geq \phi_1 \) such that the household will choose the no-protection optimum when \( \frac{w_M}{w_F} > \phi_2 \).

Risky borrowing always takes place for some part of the \( w_M/w_F \) distribution; that is \( \phi_2 > \phi_1 \). Using expressions (19) and (21), this is the case iff

\[
\phi_2 \geq \frac{2[R - 1 + \theta(RR - r)]}{\theta\Delta r} > \frac{1}{\theta} \geq \phi_1
\]

It is sufficient to show that \( \frac{2(R-1)}{\Delta r} - 1 > 0 \):

\[
\frac{2(R - 1)}{\Delta r} - 1 = \frac{1}{\Delta r}(2R - 2 - R + R) = \frac{1}{\Delta r}(2r - 2) > 0
\]
Finally, we show that $\phi_2 > \phi_2$. To do this, we will show that household strictly prefers a risky loan to a risk-free loan when $w_M/w_F = \phi_2$.

Expressions (20) and (21) indicate that, when $w_M/w_F = \phi_2$, the optimal risk free loan size is

$$l^* = \frac{R}{1 - \frac{R}{R}} (w_M - c_0^*)$$

(22)

After loan repayment, consumption in the bad state equals $c_{1,B}^* = R w_F$. This is identical to consumption in the bad state when the household contracts a risky loan ($\hat{c}_{1,B}$).

Now, consider the household’s consumption and investment decision when the household contracts a risky loan. Suppose that the household were to select $\hat{c}_0 = c_0^*$, so that consumption at $t = 0$ and consumption in the bad state are identical to a risk-free loan. If the household is able to increase consumption in the good state ($\hat{c}_{1,G}$), holding $c_0^*$ and $\hat{c}_{1,B}$ constant, then it follows that the household is certainly better off contracting a risky loan. The largest loan the household will be able to contract (while satisfying the lender’s zero profit condition and the borrower’s incentive compatibility constraint) is pinned down by the following two equations:

$$\rho l + \frac{R}{R}(w_M - c_0^* + l) = 2l$$

(23)

$$\frac{R}{R}(w_M - c_0^* + l) - \rho l = \beta \Delta r (w_M - c_0^* + l)$$

(24)

After some algebra, this implies the following maximum loan size:

$$\hat{l} = \frac{2r - \beta \Delta r}{2 - 2r + \beta \Delta r} (w_M - c_0^*)$$

(25)

Thus, consumption in the good state with this loan size would be:

$$\hat{c}_{1,G} = \frac{R}{R}(w_M + w_F - c_0^* + \hat{l}) - \rho \hat{l}$$

$$= \frac{R}{R} w_F + \frac{2\beta \Delta r}{2 - 2r + \beta \Delta r} (w_M - c_0^*)$$

(26)

This follows from substituting in the solutions for $\hat{l}$ and $\rho \hat{l}$ from (23) and (25) and simplifying.

Consumption in the good state with a risk-free loan is:

$$c_{1,G}^* = \frac{R}{R}(w_M + w_F - c_0^* + l^*) - l^* = \frac{\Delta r}{1 - \frac{R}{R}} (w_M - c_0^*)$$

(27)

This follows from substituting $l^*$ from (22) and simplifying.
So, the household can increase consumption in the good state iff:

\[ \hat{c}_{1,G} - c_{1,G}^* > 0 \]
\[ \Rightarrow \frac{2\beta \Delta r}{2 - 2r + \beta \Delta r} - \frac{\Delta r}{1 - R} > 0 \]
\[ \Rightarrow \frac{(1 - \beta)(2r - 2)}{(2 - 2r + \beta \Delta r)(1 - R)} > 0 \]

Since \( r > 1 \) and \( \beta < 1 \), this is always true.

Thus, when \( w_M/w_F = \phi_2 \), it can achieve \( \hat{c}_0 = c_0^* \), \( \hat{c}_{1,B} = c_{1,B}^* \), and \( \hat{c}_{1,G} > c_{1,G}^* \) by contracting a risky loan. This means that the household is unambiguously better off contracting a risky loan, which implies that \( \phi_2 > \phi_2^* \).

**Proof.** Lemma 5a:

In the case with no protection, we obtain the following elasticities of investment with respect to \( w_M \) and \( w_F \):

\[ \epsilon^*_M = \frac{\partial I^*_M}{\partial w_M} \frac{w_M}{I^*} = \left( \frac{r - 1}{(R - 1)(1 - R)} \right) \left( \frac{\theta}{1+\theta} w_M \right) \left[ \left( \frac{r - 1}{(R - 1)(1 - R)} \right) \left( \frac{\theta}{1+\theta} \right) (w_M + w_F) \right]^{-1} = \frac{w_M}{w_M + w_F} \]
\[ \epsilon^*_F = \frac{\partial I^*_F}{\partial w_F} \frac{w_F}{I^*} = \left( \frac{r - 1}{(R - 1)(1 - R)} \right) \left( \frac{\theta}{1+\theta} w_F \right) \left[ \left( \frac{r - 1}{(R - 1)(1 - R)} \right) \left( \frac{\theta}{1+\theta} \right) (w_M + w_F) \right]^{-1} = \frac{w_F}{w_M + w_F} \]

Case 1: \( w_M/w_F < \phi_1 \) or \( w_M/w_F > \phi_2 \)

If \( w_M/w_F < \phi_1 \), then \( \hat{I} = \frac{\theta}{1+\theta} (w_M + w_F) \), so \( \hat{\epsilon}_M = \frac{w_M}{w_M + w_F} = \epsilon^*_M \) and \( \hat{\epsilon}_F = \frac{w_F}{w_M + w_F} = \epsilon^*_F \), by a similar argument to the one made for the no protection case. If \( w_M/w_F > \phi_2 \), then \( \hat{I} = I^* \), so \( \hat{\epsilon}_M = \epsilon^*_M \) and \( \hat{\epsilon}_F = \epsilon^*_F \). So, the proposition holds in these cases.

Case 2: \( \phi_1 \leq w_M/w_F \leq \phi_2 \)

In this case, \( \hat{I} \) takes the form \( \chi_M w_M + \chi_F w_M \), where

\[ \chi_M \equiv \left( \frac{\theta}{2 + \theta} \right) \frac{2}{2 - 2r + \beta \Delta r} \quad (28) \]

and

\[ \chi_F \equiv 1 - \left( \frac{2}{2 + \theta} \right) \frac{R}{\beta \Delta r}. \quad (29) \]
Then:
\[
\hat{\epsilon}_M = \frac{\chi_M w_M}{\chi_M w_M + \chi_F w_F},
\]
\[
\hat{\epsilon}_F = \frac{\chi_F w_F}{\chi_M w_M + \chi_F w_F}.
\]

The difference between \(\hat{\epsilon}_M\) and \(\epsilon^*_M\) is:
\[
\hat{\epsilon}_M - \epsilon^*_M = \frac{\chi_M w_M}{\chi_M w_M + \chi_F w_F} - \frac{w_M}{w_M + w_F} = \frac{w_M w_F (\chi_M - \chi_F)}{(w_M + w_F) (\chi_M w_M + \chi_F w_F)}.
\] (30)

This is positive if \(\chi_M > \chi_F\). By a similar argument, \(\hat{\epsilon}_F - \epsilon^*_F < 0\) if \(\chi_M > \chi_F\). So, if \(\chi_M > \chi_F\), this proves the proposition.

After some algebra, we arrive at the following:
\[
\chi_M - \chi_F = \frac{1}{\beta \Delta r (2 + \theta)} \left[ \left( \frac{2}{2 - 2r + \beta \Delta r} - 1 \right) \theta \beta \Delta r + 2(R - \beta \Delta r) \right] \] (31)

Now, \(R - \beta \Delta r > 0\). So, if \(\frac{2}{2 - 2r + \beta \Delta r} > 1\), then \(\chi_M - \chi_F > 0\). To show that this is the case, we show that \(2 - 2r + \beta \Delta r < 1\).

\[
2 - 2r + \beta \Delta r < 2 - 2r + \Delta r = 2(1 - R) < 2(1 - \frac{1}{2}) = 1
\]

This follows from the restriction we made earlier that \(\beta < 1\) and \(R > \frac{1}{2}\).

**Proof.** Lemma 5b:

Case 1: \(w_M/w_F < \phi_1\) or \(w_M/w_F > \phi_2\)

Notice that \(\hat{I} - I^* < 0\) when \(w_M/w_F < \phi_1\). And, \(\hat{I} - I^* = 0\) when \(w_M/w_F > \phi_2\).

Case 2: \(\phi_1 < w_M/w_F < \phi_2\)

The proof proceeds by characterizing the cutoff \(\phi^*\) such that \(I^* - \hat{I} < 0\) if \(\frac{w_M}{w_F} < \phi^*\) and \(I^* - \hat{I} > 0\) if \(\phi^* \leq \frac{w_M}{w_F} < \phi_2\). We proceed in two steps:

(a) We first calculate the level of \(\frac{w_M}{w_F}\) where \(I^* - \hat{I} = 0\). First, recall that \(I^*\) takes the form \(\chi_{IC}(w_M + w_F)\), where

\[
\chi_{IC} \equiv \left( \frac{\theta}{1 + \theta} \right) \frac{r - 1}{(R - 1)(1 - R)}. \] (32)

And, recall from the proof of Lemma 5a that when \(\phi_1 < w_M/w_F < \phi_2\), \(\hat{I}\) takes the form \(\chi_M w_M + \chi_F w_F\), where \(\chi_M\) and \(\chi_F\) are given by (28) and (29). Then,

\[
I^* - \hat{I} = (\chi_{IC} - \chi_M)w_M + (\chi_{IC} - \chi_F)w_F
\]
This only has a solution if \( \chi_M > \chi_{IC} \) and \( \chi_{IC} > \chi_F \); this follows from the fact that \( \chi_M > \chi_F \), which we proved in Lemma 5a.

We first show that \( \chi_M > \chi_{IC} \):

\[
\chi_M - \chi_{IC} = \frac{2\theta}{(2 + \theta)(2 - 2r + \beta \Delta r)} \frac{\theta(r - 1)}{(1 + \theta)(R - 1)(1 - R)} > \frac{\theta}{2 - 2r + \beta \Delta r} \left( \frac{2}{2 + \theta} - \frac{1}{1 + \theta} \right)
\]

This follows from the fact that investment under incomplete markets \( \left( \frac{\theta(r - 1)}{(1 + \theta)(R - 1)(1 - R)}(w_M + w_F) \right) \) is smaller than investment under complete markets \( \left( \frac{\theta}{2 - 2r + \beta \Delta r}(w_M + w_F) \right) \).

So, \( \chi_M - \chi_{IC} > \frac{\theta}{2 - 2r + \beta \Delta r} \left( \frac{2}{2 + \theta} - \frac{1}{1 + \theta} \right) > 0 \)

Next, we show that \( \chi_{IC} > \chi_F \). Consider expression (29) for \( \chi_F \). Since \( \frac{2}{2 + \theta} > \frac{1}{1 + \theta} \) and \( R > \beta \Delta r \), it must be that \( \chi_F < \frac{\theta}{1 + \theta} \). From expression (32) for \( \chi_{IC} \) it is clear to see that, because \( \frac{r - 1}{(R - 1)(1 - R)} > 1 \), \( \chi_{IC} > \frac{\theta}{1 + \theta} \). From here it follows that \( \chi_{IC} > \chi_F \).

These results indicate that there exists a \( \phi^{**} \) such that

\[
\hat{I} - I^* = 0 \Rightarrow \frac{\chi_{IC} - \chi_F}{\chi_M - \chi_{IC}} \equiv \phi^{**} \quad (33)
\]

(b) We now prove that \( \phi^* = \max\{\phi^{**}, \phi_1\} \)

If \( \phi_1 < \phi^{**} \), then \( \phi^{**} \) satisfies the condition for \( \phi^* \) stated in the proposition. However, if \( \phi^{**} \leq \phi_1 \), then \( \hat{I} - I^* > 0 \) \( \forall \) \( w_M/w_F \in [\phi_1, \phi_2] \), and \( \phi_1 \) satisfies the condition for \( \phi^* \) stated in the proposition.

The only thing left to show is that \( \phi^{**} < \phi_2 \). To do this, we use the result from Proposition 4 that \( \phi_2 < \phi_2 \), where \( \phi_2 \) is defined in expression (21), and we will show that \( \hat{I} > I^* \) when \( \frac{w_M}{w_F} = \phi_2 \), indicating that \( \phi^{**} < \phi_2 < \phi_2 \).

Because the interest rate paid on \( \hat{l} \) in the good state will be greater than the interest rate paid on \( l^* \) in the good state (since \( \hat{l} \) is risky and \( l^* \) is not), it is sufficient to show that consumption in the good state with protection \( (\hat{c}_{1,G}) \) is greater than consumption in the good state without protection \( (c^*_1) \) for \( w_M/w_F = \phi_2 \).

Given the solutions for \( c^*_0 \) and \( l^* \), we know that households will optimally select the following ratio of \( c^*_{1,G} \) to \( c^*_0 \):

\[
\frac{c^*_{1,G}}{c^*_0} = \frac{\theta}{2} \left( \frac{\Delta r}{1 - R} \right) \quad (34)
\]
And, from Proposition 4, we know that when $\phi_1 < w_M/w_F < \phi_2$, households will optimally select the following ratio of $\hat{c}_{1,G}$ to $\hat{c}_0$:

$$\frac{\hat{c}_{1,G}}{\hat{c}_0} = \frac{\theta}{2} \left( \frac{2\beta \Delta r}{2 - 2r + \beta \Delta r} \right)$$

(35)

In the proof of Proposition 4, we show that $\frac{2\beta \Delta r}{2 - 2r + \beta \Delta r} - \frac{\Delta r}{1 - R} > 0$, which means that $\frac{\hat{c}_{1,G}}{\hat{c}_0} > \frac{c^*_G}{c_0^*}$.

Now, suppose that $\hat{c}_{1,G} < c^*_G$ when $w_M/w_F = \phi_2$. Because $\frac{\hat{c}_{1,G}}{\hat{c}_0} > \frac{c^*_G}{c_0^*}$, this would imply that $\hat{c}_0 < c_0^*$. According to the proof of Proposition 4, this would leave the household strictly worse off with protection because $\hat{c}_{1,B} = c^*_G$. As a result, the household can be made strictly better off with protection. Thus, we know that $\hat{c}_{1,G} > c^*_G$, which means that $\hat{I} > I^*$ when $w_M/w_F = \phi_2$. This implies that $\phi^{**} < \phi_2$. 

\[ \boxed{\text{Equation}} \]
D Data Appendix

1850 Census

We use the full count 1850 Federal Census from the North Atlantic Population Project (NAPP). This dataset is largely clean; however, the 1850 census does not identify married couples, so we need to assign marital status to individuals based on their placement in the household. We apply a rule that is very similar to the rule that IPUMS uses: we define a married couple to be a man (15+) and a woman (13+) with the same surname, entered adjacent to one another in the census manuscript, with the man no more than 25 years older or less than 10 years younger than the woman. We also eliminate potential siblings, defined as being part of a descending list of similarly aged individuals with the same surname. We test our assignment rule by verifying that it broadly assigns the same marital status to couples in the 1850 1% samples as the IPUMS procedure: our procedure and the IPUMS procedure assign the same marital status to 97% of southern women in the 1850 1% sample.

The 1850 population census contains information about the total value of real estate that a household owned. Enumerators were instructed to “insert the value of real estate owned by each individual enumerated; you are to obtain the value of real estate by inquiry of each individual who is supposed to own real estate, be the same located where it may, and insert the amount in dollars; no abatement of the value is to be made on account of any lien or incumbrance [sic] thereon in the nature of debt.” (Ruggles et al 2010). Real estate included both land and buildings. At the time, there were two categories of property: real and personal estate. According to its contemporaneous definition, the former referred to “rights or property in lands, tenements and hereditaments (...) it applies not only to the ground or soil but to everything attached to it naturally (...) or by art such as houses and structures.” Personal property included all possessions that were unrelated to land, such as furniture, household items, financial instruments (Ripley and Dana [1867]). Slaves were considered personal property and were excluded from reported real estate. In 1850 there was a separate agricultural census that collected information about farms’ land values. This does not mean that land values were deducted from reported real estate in the personal census. The

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21 This is true in all states but Louisiana, where slaves were considered real estate.
statistical compendium to the 1850 census treats the land values from the agricultural census as part of the total real estate reported (DeBow [1854], p. 189). Consistent with this interpretation, the total value of real estate and farm lands in predominantly agricultural states are very similar. For example, in Alabama the total value of farm and plantation lands was $64.3 million, while total real estate amounted to $78.8 million (DeBow [1854], p. 169, 190).

We link the 1850 population census to the 1850 slave schedules, which come from the genealogical website familysearch.org. The slave schedules contain information on the name of the slave owner and the county of residence. We match the 1850 slave schedules to the population census by county of residence (since the slave census and population census were taken at the same time), surname and first initial. We then evaluate the similarity of potential matches – both first and last names– using the Jaro-Winkler algorithm (Ruggles et al 2010), and we define a string as “matched” if it scores 0.9 (out of 1) or higher. We break ties in favor of exact surname matches, head of household status, and gender (if only the first initial of the first name is given in the slave schedules). We define a household as having zero slave wealth if they do not match to anyone in the 1850 slave schedules, and we assign slave holdings from the 1850 slave schedules to all households that uniquely match to the slave schedules. In about 25% of cases, we are unable to determine the slave owner status of a household because of multiple matches that cannot be refined using our algorithm – so these households drop from our core sample. To test that our results are not biased by error in linkages between the population census and the slave schedules, we estimate a version of our model using real estate wealth alone; these results are presented in Tables E6. We plot the distributions of our 1850 household asset measures in Figure E2.

22 The agricultural census includes detailed information on improved and unimproved acreage, the value of implements and machinery and livestock. It would be of interest to include this information in the analysis, but unfortunately it cannot be used in this study: (1) there is uncertainty about actual ownership, enumerators were asked to report the name of the main person operating the farm or plantation, not necessarily its owner(s); (2) the agricultural schedule only reported information for farms or plantation with produce of more than $100, omitting all smallholdings; (3) the schedules do not survive for all states.
Marriage Records

We obtain a list of marriages contracted in 9 southern states from the genealogical website familysearch.org. These records are available for a subset of counties; details about the coverage of these records are given in Table E3. These records give us information about the bride’s full name, the groom’s full name, the county of marriage, and the date of marriage. We link these records to the census of 1850 by groom’s first name, groom’s last name, and bride’s last name. We drop observations in which only the groom’s or bride’s first initial is provided, as we feel this provides insufficient information to make quality links.

We first merge our marriage records with the 1850 census by: (1) Groom’s first initial; (2) Bride’s first initial; (3) NYSIIS code for groom’s surname (Atack and Bateman 1992). Because we only have information on names with which to narrow our list of potential matches, it is necessary to impose some filter prior to evaluating the similarity of our matches. We then calculate a measure of string similarity between names in our marriage records and names in the census using the Jaro-Winkler algorithm. We define two strings as “matched” if they score 0.8 (out of 1) or higher, or if only a first initial is recorded in the census and first initials match. We keep unique matches only, and then we drop matches with only first initials reported in the census. We are aiming for accuracy at the expense of sample size. This procedure yields numerous multiple matches – see table E1 for details. So, we narrow down our matches using information on implied ages at marriage, using the procedure described in the main body of the text. Evidence on the accuracy of our unique matches can be found in table E2 and figure E1.

1840 Census

We compute a measure of “familial assets” by averaging log slave wealth by state and surname, and we link this to our matched sample by state of birth and surname (using the maiden name from marriage records for women). So, the pre-marital wealth of person $i$ with surname $j$ who was born in state $s$ will be:

$$\hat{w}_{i,j,s} = \frac{1}{K_{j,s}} \sum_{k=1}^{K_{j,s}} w_{k,j,s}$$
Here, $K_{j,s}$ is the number of households in state $s$ headed by someone with the surname $j$. We match the spelling of surnames exactly. We are able to obtain an estimate of pre-marital wealth for 76% of our linked sample, among couples in which both the husband and wife are southern born.

One thing to point out is that the distribution of $\hat{w}_{i,j,s}$ depends on $K_{j,s}$, with more common names having a more compressed distribution than uncommon names. In our linked sample, $\hat{w}_{i,j,s}$ among surnames occurring only has a mean of 2.8 and a standard deviation of 3.7; conversely, $\hat{w}_{i,j,s}$ among surnames occurring 2-100 times has a mean of 2.8 and a standard deviation of only 1.9. Among names occurring 100 times or more, $\hat{w}_{i,j,s}$ has a mean of 2.7 and a standard deviation of 0.75. The median man in the sample has a name occurring 15 times, while the median woman in the sample has a name occurring 28 times. This difference is due to the fact that we are performing links using men’s surnames, which biases us against finding men with common surnames.

Given these distributional features of our measure of wealth, it is worth mentioning some of its properties. Suppose there is no linkage error. So, if we observe person $i$ with surname $j$ from state $s$, we assume that this person’s family is one of the $K_{j,s}$ households used to compute $\hat{w}_{i,j,s}$. Suppose also that there is error in the measurement of “true” log wealth ($w^*$), so that measured wealth ($w$) is given by:

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

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

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

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

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

After some algebra, this follows from the assumption that \( \epsilon \) is IID with mean zero, and that \( w_{i,j,s} \) is one of the \( K_{j,s} \) observations used to compute \( \hat{w}_{i,j,k} \). Intuitively, this is increasing in the variance of the measurement error term, increasing in the dispersion of \( w^* \) within surname-state groups, and decreasing in the covariance of \( w^* \) within surname-state groups.

Given that we have no information about these parameters, it is difficult for us to address this empirically. However, notice also that the overall variance of measurement error also depends on \( K_{j,s} \). In particular, as \( K_{j,s} \) increases, measurement error generated by \( \epsilon \) becomes less important, but measurement error generated by dispersion within surname-state groups becomes more important. This is because, as \( K_{j,s} \) increases, \( \hat{w}_{i,j,s} \) starts to converge to the median \( w \). This tends to cause the expected squared deviation of \( w \) from \( \hat{w}_{i,j,s} \) to start to grow. We can address this by overweighting observations with less common names. Specifically, we compute the following weight for men from state \( s \) with surname \( j \) and women from state \( t \) with surname \( k \):

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

Here, \( K_{j,s} \) is the number of households in state \( s \) with surname \( j \), and \( \hat{\sigma}_{j,s}^2 \) is the sample variance of \( w \) among households in state \( s \) with surname \( j \). This is an attempt at weighting by the inverse of the geometric mean of the variance of measurement error associated with the husband’s and wife’s wealth. These results can be found in Table E6.

### D.1 References


E Additional Tables and Figures
Note: This figure evaluates the accuracy of our matches using the implied age at marriage. The left panels present distributions of the age-at-marriage of husbands and wives in our matched sample who got married in 1840 and 1849. The right panels present ages-at-marriage for randomly matched persons in the 1850 census, assuming they were either married in 1840 or 1849.
Figure E2: Distributions of Wealth Variables
Figure E3: Robustness to Different Wealth Transformations

Note: Plots OLS estimates of the coefficient on [Husband’s log(W) - Wife’s log(W), 1840] × Post Law from our baseline specification, when different constants are added to wealth variables before taking logs. Dashed lines represent 95% confidence bands (based on standard errors clustered at three levels: state-year of marriage, groom’s surname-birth state, and bride’s surname-birth state).
Note: Plots distribution of OLS estimates of the coefficient on $[\text{Husband's log}(W) - \text{Wife's log}(W), 1840] \times \text{Post Law}$ from 10,000 iterations of our baseline specification, in which marriage dates are randomly assigned. The vertical line at 0.227 indicates the baseline OLS estimate from Table 3 in the main text.
Note: Cotton intensity is defined as the ratio of pounds of cotton picked in 1840 to the white population, at the state level (Haines & ICPSR 2010). Slave intensity is the ratio of slaves to whites in 1840, at the state level ((Haines & ICPSR 2010). Cotton and slave prices are taken from the Historical Statistics of the United States (Carter et al 2006). Sample includes all southern states (adding Maryland and South Carolina to the base sample). Kaplan-Meier survival estimates represent the probability of not having passed a property law in each year, subdivided by cotton and slave intensity.
Table E1: Rates of Matching to 1850 Census by State

<table>
<thead>
<tr>
<th>State</th>
<th>% at least 1 match to census (incl. first initials)</th>
<th>% at least 1 full first name match to census</th>
<th>% unique match to census</th>
<th>% matched using age information</th>
<th>Total number of marriage records</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alabama</td>
<td>0.585</td>
<td>0.487</td>
<td>0.176</td>
<td>0.236</td>
<td>23,843</td>
</tr>
<tr>
<td>Arkansas</td>
<td>0.534</td>
<td>0.445</td>
<td>0.167</td>
<td>0.218</td>
<td>5,846</td>
</tr>
<tr>
<td>Florida</td>
<td>0.525</td>
<td>0.455</td>
<td>0.162</td>
<td>0.197</td>
<td>2,378</td>
</tr>
<tr>
<td>Georgia</td>
<td>0.614</td>
<td>0.518</td>
<td>0.196</td>
<td>0.256</td>
<td>27,689</td>
</tr>
<tr>
<td>Kentucky</td>
<td>0.558</td>
<td>0.476</td>
<td>0.171</td>
<td>0.216</td>
<td>43,584</td>
</tr>
<tr>
<td>Louisiana</td>
<td>0.288</td>
<td>0.219</td>
<td>0.067</td>
<td>0.086</td>
<td>6,140</td>
</tr>
<tr>
<td>Mississippi</td>
<td>0.636</td>
<td>0.527</td>
<td>0.210</td>
<td>0.286</td>
<td>10,635</td>
</tr>
<tr>
<td>North Carolina</td>
<td>0.569</td>
<td>0.496</td>
<td>0.222</td>
<td>0.266</td>
<td>23,050</td>
</tr>
<tr>
<td>Tennessee</td>
<td>0.308</td>
<td>0.243</td>
<td>0.089</td>
<td>0.120</td>
<td>81,380</td>
</tr>
<tr>
<td>Texas</td>
<td>0.493</td>
<td>0.378</td>
<td>0.139</td>
<td>0.215</td>
<td>6,502</td>
</tr>
<tr>
<td>Virginia</td>
<td>0.618</td>
<td>0.562</td>
<td>0.243</td>
<td>0.283</td>
<td>26,813</td>
</tr>
<tr>
<td>Total</td>
<td>0.489</td>
<td>0.411</td>
<td>0.158</td>
<td>0.203</td>
<td>257,860</td>
</tr>
</tbody>
</table>
### Table E2: Accuracy of Matched Data

<table>
<thead>
<tr>
<th>State</th>
<th>Married in All southern state</th>
<th>Married in All southern state</th>
<th>Married in All southern state</th>
<th>Married in All southern state</th>
<th>Married in All southern state</th>
<th>Married in All southern state</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alabama</td>
<td>0.726</td>
<td>0.074</td>
<td>0.224</td>
<td>0.022</td>
<td>0.380</td>
<td>0.034</td>
</tr>
<tr>
<td>Arkansas</td>
<td>0.795</td>
<td>0.029</td>
<td>0.116</td>
<td>0.002</td>
<td>0.181</td>
<td>0.004</td>
</tr>
<tr>
<td>Florida</td>
<td>0.801</td>
<td>0.008</td>
<td>0.096</td>
<td>0.001</td>
<td>0.225</td>
<td>0.002</td>
</tr>
<tr>
<td>Georgia</td>
<td>0.800</td>
<td>0.091</td>
<td>0.572</td>
<td>0.078</td>
<td>0.681</td>
<td>0.088</td>
</tr>
<tr>
<td>Kentucky</td>
<td>0.865</td>
<td>0.137</td>
<td>0.637</td>
<td>0.090</td>
<td>0.731</td>
<td>0.101</td>
</tr>
<tr>
<td>Louisiana</td>
<td>0.794</td>
<td>0.044</td>
<td>0.515</td>
<td>0.015</td>
<td>0.583</td>
<td>0.019</td>
</tr>
<tr>
<td>Mississippi</td>
<td>0.770</td>
<td>0.052</td>
<td>0.203</td>
<td>0.009</td>
<td>0.310</td>
<td>0.014</td>
</tr>
<tr>
<td>North Carolina</td>
<td>0.831</td>
<td>0.098</td>
<td>0.806</td>
<td>0.169</td>
<td>0.831</td>
<td>0.152</td>
</tr>
<tr>
<td>Tennessee</td>
<td>0.781</td>
<td>0.132</td>
<td>0.554</td>
<td>0.102</td>
<td>0.646</td>
<td>0.117</td>
</tr>
<tr>
<td>Texas</td>
<td>0.820</td>
<td>0.028</td>
<td>0.030</td>
<td>0.001</td>
<td>0.074</td>
<td>0.002</td>
</tr>
<tr>
<td>Virginia</td>
<td>0.890</td>
<td>0.160</td>
<td>0.833</td>
<td>0.194</td>
<td>0.861</td>
<td>0.180</td>
</tr>
</tbody>
</table>

### Table E3: Coverage of 1840 Marriage Record Data

<table>
<thead>
<tr>
<th>State</th>
<th># Marriage records</th>
<th>% counties with marriage record data</th>
<th>% Population living in counties with marriage record data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alabama</td>
<td>27,934</td>
<td>0.67</td>
<td>0.75</td>
</tr>
<tr>
<td>Arkansas</td>
<td>7,186</td>
<td>0.49</td>
<td>0.56</td>
</tr>
<tr>
<td>Georgia</td>
<td>32,756</td>
<td>0.74</td>
<td>0.78</td>
</tr>
<tr>
<td>Kentucky</td>
<td>50,507</td>
<td>0.64</td>
<td>0.71</td>
</tr>
<tr>
<td>Louisiana</td>
<td>5,277</td>
<td>0.19</td>
<td>0.37</td>
</tr>
<tr>
<td>Mississippi</td>
<td>12,838</td>
<td>0.47</td>
<td>0.65</td>
</tr>
<tr>
<td>North Carolina</td>
<td>27,564</td>
<td>0.73</td>
<td>0.76</td>
</tr>
<tr>
<td>Tennessee</td>
<td>95,371</td>
<td>0.65</td>
<td>0.72</td>
</tr>
<tr>
<td>Virginia</td>
<td>31,292</td>
<td>0.48</td>
<td>0.54</td>
</tr>
</tbody>
</table>
Table E4: Comparison of Characteristics by Legal Status

<table>
<thead>
<tr>
<th></th>
<th>Mean, no protection</th>
<th>Mean, protection</th>
<th>P value, test of equality</th>
<th>Regression coefficient</th>
<th>P value, test of significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Husband’s age at marriage</td>
<td>26.78</td>
<td>27.92</td>
<td>0.000</td>
<td>0.000</td>
<td>0.129</td>
</tr>
<tr>
<td>Wife’s age at marriage</td>
<td>21.73</td>
<td>22.39</td>
<td>0.000</td>
<td>0.000</td>
<td>0.005</td>
</tr>
<tr>
<td>Husband literate</td>
<td>0.84</td>
<td>0.85</td>
<td>0.017</td>
<td>0.004</td>
<td>0.439</td>
</tr>
<tr>
<td>Wife literate</td>
<td>0.77</td>
<td>0.82</td>
<td>0.000</td>
<td>-0.006</td>
<td>0.209</td>
</tr>
<tr>
<td>Total wealth, 1850</td>
<td>1509.37</td>
<td>1341.74</td>
<td>0.036</td>
<td>0.000</td>
<td>0.671</td>
</tr>
<tr>
<td>Fraction of wealth held in slaves</td>
<td>0.29</td>
<td>0.27</td>
<td>0.046</td>
<td>-0.001</td>
<td>0.877</td>
</tr>
<tr>
<td>Nonzero slave wealth, 1850</td>
<td>0.25</td>
<td>0.23</td>
<td>0.005</td>
<td>0.005</td>
<td>0.298</td>
</tr>
<tr>
<td>Zero wealth in 1850</td>
<td>0.44</td>
<td>0.46</td>
<td>0.003</td>
<td>0.001</td>
<td>0.732</td>
</tr>
<tr>
<td>Employed in agriculture</td>
<td>0.67</td>
<td>0.68</td>
<td>0.154</td>
<td>-0.001</td>
<td>0.792</td>
</tr>
<tr>
<td>Resident in marriage county in 1850</td>
<td>0.70</td>
<td>0.75</td>
<td>0.000</td>
<td>0.001</td>
<td>0.775</td>
</tr>
<tr>
<td>Groom’s 1840 log slave wealth</td>
<td>2.65</td>
<td>2.64</td>
<td>0.669</td>
<td>0.000</td>
<td>0.914</td>
</tr>
<tr>
<td>Bride’s 1840 log slave wealth</td>
<td>2.69</td>
<td>2.68</td>
<td>0.567</td>
<td>0.000</td>
<td>0.942</td>
</tr>
<tr>
<td>Groom’s - Bride’s 1840 log slave wealth</td>
<td>-0.041</td>
<td>-0.038</td>
<td>0.944</td>
<td>0.000</td>
<td>0.976</td>
</tr>
<tr>
<td># families per state-surname, bride &amp; groom combined,</td>
<td>76.96</td>
<td>75.60</td>
<td>0.532</td>
<td>0.000</td>
<td>0.407</td>
</tr>
</tbody>
</table>

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 $LAW_{s,t}$ on each characteristic (individually) and state and year of marriage fixed effects. Standard errors are clustered by state-year of marriage; groom’s and bride’s 1840 slave wealth are also clustered by surname-state of birth.
**Table E5: 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>Post Law</td>
<td>0.008</td>
<td>0.008</td>
<td>0.008</td>
<td>-0.014</td>
<td>-0.014</td>
<td>-0.016</td>
</tr>
<tr>
<td>[Husband’s log(W) - Wife’s log(W), 1840] × Post Law</td>
<td>0.001</td>
<td>0.002</td>
<td>0.002</td>
<td>-0.017</td>
<td>-0.017</td>
<td>-0.017</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>
<tr>
<td>Age at marriage FE</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Birthstate and literacy FE</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</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>
</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 premarital assets, and interactions between premarital assets variables and state and year of marriage fixed effects. *Husband’s/Wife’s 1840 assets:* average log value of slaves ($\log(# \text{ slaves} \times 377 + 1)$) of individuals with the same surname as the husband and wife in their respective states of births in the 1840 census. 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 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 demeaned and 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 premarital assets 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 premarital assets difference. Standard errors (clustered at three levels: state × year-of-marriage, groom’s surname-birthplace, bride’s surname-birthplace) are reported in parentheses: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. 

122
Table E6: Effect of Married Women’s Property Laws on 1850 Gross Investment - Additional Robustness 1

<table>
<thead>
<tr>
<th>Dep. var.</th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Post Law</td>
<td>-0.126</td>
<td>-0.138</td>
<td>-0.009</td>
<td>-0.141</td>
</tr>
<tr>
<td></td>
<td>(0.110)</td>
<td>(0.093)</td>
<td>(0.127)</td>
<td>(0.188)</td>
</tr>
<tr>
<td>[Husband’s log(W) - Wife’s log(W), 1840] × Post Law</td>
<td>0.134</td>
<td>0.162</td>
<td>0.218</td>
<td>0.178</td>
</tr>
<tr>
<td></td>
<td>(0.070)*</td>
<td>(0.068)**</td>
<td>(0.072)**</td>
<td>(0.108)</td>
</tr>
<tr>
<td>Adj-$R^2$</td>
<td>0.157</td>
<td>0.190</td>
<td>0.190</td>
<td>0.197</td>
</tr>
<tr>
<td>Obs</td>
<td>27090</td>
<td>24933</td>
<td>24933</td>
<td>27090</td>
</tr>
<tr>
<td>Age at marriage FE</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Birthstate and literacy FE</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Frequency names, bin FE</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>State specific lin. time trend</td>
<td>Y</td>
<td>Y</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. 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. 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. Column (1) defines gross investment as real estate assets only, relaxing the constraint the observations be linkable to the 1850 slave schedules. Column (2) relaxes the constraint that couples be resident in their state of marriage in 1850, and adds state of residence fixed effects. Column (3) also includes couples who are married in a state other than their state of residence, but defines protection status based on state of residence not marriage. Column (4) weights the regression by $\lambda_{j_{s,kt}}$, as defined in Appendix B. We use real estate as the dependent variable, as linking from the population to the slave census imparts additional error (correlated with the commonness of surnames) which this weight is not necessarily appropriate for. Standard errors (clustered at three levels: state × year-of-marriage, groom’s surname-birth state, bride’s surname-birth state) are reported in parentheses: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. 

123
Table E7: Effect of Married Women’s Property Laws on 1850 Gross Investment - Additional Robustness 2

<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>0.568</td>
<td>0.271</td>
<td>0.340</td>
<td>-0.185</td>
<td>-0.199</td>
<td>-0.197</td>
</tr>
<tr>
<td></td>
<td>(0.378)</td>
<td>(0.389)</td>
<td>(0.414)</td>
<td>(0.096)*</td>
<td>(0.101)**</td>
<td>(0.117)*</td>
</tr>
<tr>
<td>[Husband’s log(W) - Wife’s log(W), 1840] × Post Law</td>
<td>0.238</td>
<td>0.233</td>
<td>0.232</td>
<td>0.237</td>
<td>0.185</td>
<td>0.185</td>
</tr>
<tr>
<td></td>
<td>(0.082)***</td>
<td>(0.079)***</td>
<td>(0.080)***</td>
<td>(0.087)***</td>
<td>(0.084)**</td>
<td>(0.085)**</td>
</tr>
<tr>
<td>Adj-(R^2)</td>
<td>0.112</td>
<td>0.211</td>
<td>0.212</td>
<td>0.089</td>
<td>0.203</td>
<td>0.203</td>
</tr>
<tr>
<td>Obs</td>
<td>19672</td>
<td>19672</td>
<td>19672</td>
<td>12854</td>
<td>12854</td>
<td>12854</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>Y</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>
</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. When estimating OLS 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. 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. Columns (1)-(3) include interactions between name frequency bins and marriage state and year fixed effects. Columns (4)-(6) drop states that never pass a property law. Standard errors (clustered at three levels: state × year-of-marriage, groom’s surname-birth state, bride’s surname-birth state) are reported in parentheses: * \( p < 0.10 \), ** \( p < 0.05 \), *** \( p < 0.01 \).