Online Appendix for: Women's Liberation as a Financial Innovation

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Abstract

This online appendix to "Women's Liberation as a Financial Innovation" contains 7 parts. Section A includes further details on the disabilities women suffered under coverture and a brief history of coverture, including theories as to the origination of the difference between real and moveable property. Section B performs an empirical analysis of the economic, demographic, and political determinants of women's economic rights. Section C elaborates on the discussion in Section 3.1 of the main paper, explaining the appropriate use of Geddes and Lueck (2002) as the source of our dates for women's rights. Section D performs a robustness analysis on the dates of women's rights, beginning with a description of the alternative dates (Section D.1), as well as an empirical analysis (Section D.2). Section E discusses the usury laws used in Section 5.2 of the main paper. Section F provides more details on the border analysis done in Sections 5.1 and 5.3 of the main paper, and also include maps related to these border analyses. Section G provides extra details of the results for the robustness and randomization exercises of the main paper, and Section H discusses figures on American credit markets as mentioned in the main paper.

A More on Coverture

This section begins by describing in further detail the disabilities women suffered under coverture, in addition to the economic disabilities discussed in the main paper. We then give a brief history of coverture, followed by elaborating on property laws under coverture. We end with a discussion of the history of common law distinguishing between asset classes.

Legal disabilities married women suffered under coverture, beyond the lack of property rights, were severe and often personally traumatic. For instance, consider custody over children, of which one author notes "The common law on this matter is easily summed up: the father had the absolute right to custody of the children; the mother had no rights at all." (Holcombe 1983, pp. 33). Furthermore, a husband had a great deal of control over his wife's body and actions, as "...women could not refuse sexual relations unless performance of the duty threatened their lives, nor could they withhold domestic services. A man controlled access to the home and could 'imprison' his wife to prevent her from 'going off with an adulterer' or 'squandering his property.' In [a legal commentator]'s view, because a man was 'criminally responsible for her acts of crime committed in his presence, and civilly for her torts whether he is present or absent,' he needed 'physical control over her' sufficient to 'free himself' from liability" (VanBurkleo 2001, pp. 77).

Where did coverture come from? A good starting place is the debate on married women's property rights in the UK House of Commons that took place on May 14, 1870. Mr. Jessel gives a brief overview of the history of coverture and women's legal status in England during an explanation of his support for removing women's economic disabilities that is useful to quote at length:

"The existing law was a relic of slavery, and the House was now asked to abolish the last remains of slavery in England. In considering what ought to be the nature of the law, they could not deny that no one should be deprived of the power of disposition unless on proof of unfitness to exercise that power; and it was not intelligible on what principle a woman should be considered incapable of contracting, immediately after she had, with the sanction of the law, entered into

the most important contract conceivable. The slavery laws of antiquity were the origin of the Common Law on this subject. The Roman law originally regarded the position of a wife as similar to that of a daughter, who had no property, and might be sold into slavery at the will of her father. When the Roman law became that of a civilized people, the position of the wife was altogether changed. She was allowed, as was proposed by this Bill, to have the absolute disposal of her property, and full power of contracting, with the sole exception that her immoveable property was not to be alienated without the consent of her husband. The ancient Germans - from whom our law was derived - put the woman into the power of her husband in the same sense as the ancient Roman law did. She became his slave. The Law of Slavery, whether Roman or English, for we once had slaves and slave laws in England, gave to the master of a slave the two important rights of flogging and imprisoning him. A slave could not possess property of his own, and could not make contracts except for his master's benefit, and the master alone could sue for an injury to the slave; while the only liability of the master was that he must not let his slave starve. This was exactly the position of the wife under the English law; the husband had the right of flogging and imprisoning her, as might be seen by those who read Blackstone's chapter on the relations of husband and wife. She could not possess property - she could not contract, except as his agent; and he alone could sue if she were libelled or suffered a personal injury; while all the husband was compellable to do for her was to pay for necessaries. It was astonishing that a law founded on such principles should have survived to the nineteenth century" (Hansard 1869).

The laws of coverture had been in place in England since at least the fourteenth century. Butler (2013) details examples of coverture in legal history, using the "Year Books" as a primary source. The Year Books are a collection of debates between the king's "justices and pleaders," detailing the deliberations and conclusions of a variety of lawsuits. Butler analyzes many of the court cases from the fourteenth and fifteenth centuries, with a special emphasis on studying married women's legal disabilities and the so called "civil death" that women experienced upon marriage, as their identities became legally inseparable from their husbands'. Husband and wife were considered to be one under the law, even to the extent that a 1365 case of conspiracy between a husband and his wife to

falsely accuse someone of murder was dismissed, as conspiracy requires at least two people. Butler also conveys the contempt that medieval justices held for women. Consider a 1436 case in which an unnamed woman appeared before the court for an unspecified crime. She appeared alone, as her husband was overseas, and it was not known if he was even alive. She was condemned and scheduled for execution. When her husband returned, he sued a writ of error, and she was freed. Butler details how the justices joked at the time that, had the man simply not sued, he implicitly would have been granted a divorce as she could not have sued on her own behalf, and thus would have been executed. Indeed, Butler notes that even decades later justices were still joking about this case being the basis for a method of "unofficial divorce."

There are a few more aspects of married women's property rights under coverture worth elaborating on besides those mentioned in the main paper. The first is the "curtesy" right of the husband. While married, the husband had the right to manage his wife's real estate and take the income it might generate. Upon the wife's death, the land was to revert to her family. However, the husband was allowed to continue managing her land for his benefit, by curtesy, while he was still alive, full control over real assets would return to her family. Widows, on the other hand, had a 1/3 interest in the income generated by their husbands' real estate after his death, which the husband could not bequeath away except by permission of the wife. This right was called the "dower," or "the widow's third." In addition, intestate laws gave a woman a 1/3 interest in her husband's moveable property should he die without a will. These allocations rose to 1/2 if there were no living children (Salmon 1986, p. 141). The rules regarding dower rights varied in the United States. See Salmon (1986), chapter 7, for a history of several states. However, for our purposes, neither of these rights affected the basic distortion studied in our paper: Men had the absolute right to expropriate their wives' movable property, and only limited rights over her real property. Furthermore, there was a limitation on the right of men to appropriate their wives' moveable property. "Paraphernalia" was a subset of moveable property including clothing and jewelry. Husbands could sell or give away paraphernalia during their marriages, but not bequeath it. However, given that men had absolute control and disposition of paraphernalia during the marriage, we abstract from this

distinction in the paper.

Finally, there is the issue of separate estates for married women. These separate estates date back to sixteenth century England, and were run under courts of equity, or "chancery," rather than courts of common law. In principle, they allowed for married women to have property put into a separate trust, run by a trustee, that was immune from their husbands' influence. These trusts were either created before marriage or upon receipt of an inheritance. They varied widely in the level of protection from the woman's husband, the amount of control the woman had, and the degree of control the trustee had. In England, these separate estates were prohibitively expensive for all but the wealthiest women (Holcombe 1983). In America, these trusts, also called "marriage settlements," were even rarer: Only 12 states had equity courts (Geddes and Lueck 2002). American women needed their fiancés' or husbands' permission for these trusts to be created (Salmon 1986, p. 15), and these estates were deemed fraudulent if created to deceive a fiancé (Salmon 1986, p. 89). In much of New England, such as Connecticut and Massachusetts, the legislatures refused to empower equity courts to enforce the rules. This was a result of Puritan influence, which was harshly opposed to courts of equity (Salmon 1986, pp. 120-140). Other states, such as Pennsylvania, "held an equitable jurisdiction allowing them to enforce trusts for married women, but evidence indicates that the judiciary felt uncomfortable in exercising the full panoply of equitable rules and precedents" (Salmon 1986, p. 186). Indeed, Chatfield (2014, pp. 16-17) argues that "equity courts tended to interpret contracts between husbands and wives narrowly, and with greater deference to creditors than to married women or widows, meaning that there was no sure guarantee that a woman's property would be protected upon becoming married." As such, it should not be surprising that Salmon (1986, p. 79) argues that "[b]ecause the rules fell under the supervision of courts of equity and were never defined by statute ... they remained inaccessible to the majority of women. This explains why most historians have depicted the nineteenth-century married women's property acts as more important to women than the equitable developments of the early modern period ...."[1]

[1]Salmon (1986) does, however, argue that these equity-based rules were important for their impact on legal thinking.

Of particular interest for this paper is the different treatment between real and moveable (personal) property. It is not immediately obvious why the law defines two different types of property at all. The quote from Mr. Jessel above indicates that the origin is in Roman law, as that body of law treated immoveable property (real estate) differently than others. Holcombe (1983, pp. 19–20) discusses three other theories. One theory is that the legal actions taken classified property. For instance, for a claimant to recover a piece of property itself, he would ask for rights to be enforced "in rem." Typically, this type of dispute was over land. Alternatively, rights "in personam" were invoked over damages incurred from another person's illegal interference with property, typically personal property. Thus, the difference between types of property emerged as people took different actions to seek relief over different types of property. Holcombe then discusses an alternative theory that focuses on a division of legal jurisdictions in the thirteenth century. Royal courts administered land, as rights over land were distributed as the benefit for feudal duties performed for the crown. However, ecclesiastical courts had jurisdiction over the succession of other property, much of which was orchestrated through wills.[2] Thus, the difference in which set of courts governed which type of property yielded two different types of property. The final theory Holcombe proposes is that, at the time of the development of the law, real property was the main form of wealth, especially for the upper class, and as such was treated differently. Most importantly for our purposes, she concludes that "[w]hatever the reasons for the distinction between real and personal property, the legal rules applying to these categories of property were substantially different. The common law afforded married women considerable protection with respect to real property. It afforded no protection for their personal property" (Holcombe 1983, pp.20).

B Determinants of Women's Economic Rights

We follow Geddes and Lueck (2002) and Fernández (2014) in regressing the existence of rights on economic, political, demographic, and legislative determinants of rights. See Table 2 of the main paper for summary statistics of the regressors

[2]See Holcombe (1983, pp. 9–17) for a discussion of the four different systems of courts that existed in England, and the process of their unification.

described below. Our purpose is to determine which of our independent variables are the most appropriate controls for the portfolio regressions in Section 5.1 of the main paper.

While these regressions are suggestive of various forces leading to rights, they do not necessarily permit a causal interpretation. We estimate regressions of the following structure:

$$Rights_{st} = X'_{st}\beta + Y'_{st}\gamma + Z'_{st}\delta + F'\zeta + d_{it} + \lambda_s + \epsilon_{st}, \tag{1}$$

where $Rights_{st}$ is a binary variable reflecting whether state s in year t had granted women rights. As in the main exercises, in cases where states gave rights in between census years, we "round up" the date rights were given to the next decade. For example, California gave rights in 1872, so we round up and treat California as having had rights in place since 1880. X_{st} is a vector of potential economic determinants for women's economic rights, including TFP in the non-agricultural sector relative to the agricultural sector and urbanization rates. Y_{st} is a vector of potential political determinants of women's economic rights, including the fraction of the votes in the previous gubernatorial election that went to the Democratic candidate and the fraction of the population that is female. Z_{st} is a vector of potential demographic determinants for women's economic rights, including the fraction of women in school, the fraction of men in school, and the fraction of the adult population under the age of 35. F is a vector of legislative variables that may be associated with women's rights, including the ability to form a limited liability corporation, the existence of a bank reserve requirement, double liability laws for bank shareholders, and the existence of a state banking authority. d_{it} are either year fixed effects or region-year fixed effects for each region $i \in \{\text{Northeast, South, Midwest, West}\}$, depending on the regression. λ_s are state fixed effects, using the political borders from 1850 to determine the state fixed effects, as in the main exercises.

Table H.1 shows the results. Columns 1–11 examine individual determinants of women's rights, while Column 12 includes all variables together. Column 13 repeats Column 12, but replaces year fixed effects with region-year fixed effects. We begin by discussing the economic determinants of women's rights. As ex-

plained in Section 4 of the main text, relative TFP between the agricultural and non- agricultural sectors may have been a driving force in granting women economic rights. Therefore, Column 1 regresses on this variable, with the prediction that this variable is positively correlated with women's rights. While Columns 1 and 13 find no significant impact of relative TFP on women's rights, Column 12 finds a negative and significant impact. Considering that this is the opposite direction than might have been expected, we conclude that the endogeneity of women's rights to relative TFP is not a first order concern. However, we continue to control for it throughout our analysis in the main paper in order to be cautious. Geddes and Lueck (2002) argue that higher wage premiums exist when there are larger and more specialized markets, such as in cities. Higher wage premiums increase the incentive for men to give women rights, so as to induce women make undistorted decisions regarding labor supply and business expansion. We note that urbanization rates are also a proxy for access to capital markets. This hypothesis predicts a positive relationship between urbanization and rights. As such, Column 2 regresses on urbanization rates. Columns 2 and 12 find urbanization rates to be a significant predictor of women's rights, though Column 13 does not. We therefore include this variable in our controls for the portfolio regressions (Section 5.1 of the main paper).

Turning to the political determinants of women's rights, Geddes and Lueck (2002) argue that the fraction of the total vote in the most recent gubernatorial election won by the Democrats measures control from interest groups that may be aligned with a particular party. They do not have a particular view as to whether Democrats and their interest groups are more or less likely to support rights. Chatfield (2014) argues that in South Carolina during Reconstruction, Republicans favored women's economic rights when Democrats worked against. Accordingly, we predict a negative relationship between Democratic support and rights. Column 3 accordingly regresses on the fraction of the total vote that went to the Democratic candidate in the most recent gubernatorial election. We find no impact of Democratic support on the propensity to grant rights. However, since Geddes and Lueck argue that this fraction does an excellent job of capturing special interest groups, who may have held sway over other issues related to portfolios, and Chatfield seems to support this analysis, we include this variable

in our portfolio regressions (Section 5.1). Geddes and Lueck also argue that states with relatively few women, such as those on the frontier, may have granted rights in order to induce more women to immigrate.[3] Under this view, the fraction of women in the population should have a negative relationship with rights. Column 4 regresses on the fraction of the population that is female (i.e., the sex ratio), which is calculated from Ruggles, Alexander, Genadek, Goeken, Schroeder and Sobek (2010). While Columns 4 and 13 do not find an impact of the sex ratio on women's rights, Column 12 does. Accordingly, we include this variable in our portfolio regressions.

Next, we discuss the demographic determinants of women's rights. Doepke and Tertilt (2009) argue that rights are given when the return to human capital is sufficiently high. Accordingly, measures of human capital are predicted to have a positive relationship with rights. Columns 5 and 6 regress on the fraction of women in school and the fraction of men in school, respectively, as calculated from Ruggles et al. (2010). Young people have lower levels of wealth and a longer time horizon, and therefore different considerations about whether or not to grant women rights. It is possible to tell multiple stories regarding how the age distribution may affect the incentive to give rights, so we abstain from making a blanket prediction. Column 7 regresses on the fraction of adults under age 35, also calculated from Ruggles et al. (2010). None of these specifications, or Columns 12 or 13, find a significant impact of any of these variables on married women's property rights. As such, we do not include them in our portfolio regressions.[4] However, we include them as controls in our industrialization regressions (Sections 5.3 and 5.4), as they are proxies for labor quality, an input into non-agricultural production, and the flexibility to switch sectors.

Finally, we turn to the legislative variables that may be associated with women's rights. It is not fair to call these variables "determinants" of women's rights, as both these variables and women's rights are under the control of the same legislative bodies. However, the correlation between the timing of various legal changes and women's rights may yield some insight into the general trends

[3]See Geddes and Lueck (2002) for a discussion on the historical literature related to this point.
[4]As explained in Footnote 34 we are limited in the degrees of freedom in those regressions.

in development, portfolios, and women's rights. The ability to form limited liability corporations is crucial for the development of large enterprises associated with industrialization. Data on this legislative variable comes from Hamill (1999). Column 8 therefore regresses on the existence of state level legislation allowing for limited liability corporations (LLCs). The remaining variables in this discussion come from Mitchener and Jaremski (2015). A minimum bank reserve requirement directly affects bank lending and interest rates. Through added faith in bank stability, these reserve requirements presumably affect deposits as well, and thus portfolios. Column 9 thus regresses on the existence of a bank reserve requirement in a given state. Double liability laws for bank shareholders allow a banks' creditors, such as depositors, to sue bank shareholders for losses in the event of a bank failure. These shareholders, as a result, may pressure bank managers to be more cautious with lending and increased depositor faith, especially given that many managers historically were themselves shareholders of the banks they managed.[5] Added faith in banks may well also influence portfolios. Column 10 thus regresses on the existence of double liability laws in a given state. Finally, state banking authorities could deny charters to banks without sufficient capital, monitor banks for compliance with regulations, and help unwind failed institutions. Their existence increased faith in financial markets, and discouraged excessive risk-taking on the part of banks, further influencing portfolios. Column 11 thus regresses on the existence of a state banking authority. None of these variables turn out to be statistically significant in any specification. Thus, we do not include them in our portfolio regressions, though we include the financial market regulations in the credit regressions (Section 5.2 of the main paper) and LLC regulations in the industrialization regressions (Sections 5.3 and 5.4 of the main paper). Including LLCs as a control in the portfolio regressions does not meaningfully affect results. No state changed the financial market regulations included here between 1860 and 1870, such that we cannot meaningfully include them in the portfolio regressions. We also note that the introduction of women's economic and political rights was not simultaneous. Figure H.1 shows the relationship between economic and political rights for women, by state, in the US. There is no correlation between these rights. Indeed, Massachusetts, the

[5]See Macey and Miller (1992) for a thorough legal history of double liability laws.

first state to grant economic rights, was among the last to give women the right to vote. Only Utah and Idaho gave women the right to vote before economic rights.

C Issues on Dating Women's Rights

As discussed in Section 3.1 of the main paper, there are a few issues with the use of the dates in Geddes and Lueck (2002). We now go into further detail regarding two of these issues, namely the use of "both" dates (e.g., the year in which the state first granted women rights over both their property and earnings), rather than property dates and the treatment of community property states. In addition, we compare Geddes and Lueck (2002) with other sets of dates in the literature.

It is not clear that "both" is the correct set of dates for this study. We should use whichever date a state passed (or implemented) a law that both withstood legal tests and undid the distortion to invest in real estate rather than moveable assets, which is presumably the property rights date rather than the earnings rights date.[6] There are two reasons that "both" is more appropriate as a benchmark, as noted in Section 3.1 of the main paper. The first is that there are strong complementarities between the two types of rights. The second reason is that, given the legal issues that arose around granting rights, legislatures would often need more than one round to actually grant property rights that undid investment distortions, whereas such distortions were often solved when updating other (earnings) rights.

The first reason for using "both" is that there is a high degree of complementarity in these rights. An of the complementarity in rights is seen in *Apple vs. Ganong* 47 Miss. 189 (1872). In this case, a Mr. Ganong, husband of Louisa Ganong, declared bankruptcy in Mississippi. His creditors sued to gain possession of Louisa's land. At the time, her separate estate was protected from her husband's creditors, but her *earnings* were not. Was her land part of her sepa-

[6]Notice that there is no difference between the approach that uses "both" dates and the approach that uses the property rights date if property rights were granted after or at the same time as earnings rights. Despite earnings rights being referred to as the "third wave", some states (such as Florida and Maryland) granted them even before property rights. For many states, the question of whether property rights were given before earnings rights depends on which exact bill was used to date the granting of which type of right.

rate estate? She purchased the land with a combination of money from the sale of a gift of cotton from her mother and earnings from sewing for soldiers during the Civil War. The court ruled that her husband implicitly owned the share of her land that was purchased with her labor income, and thus it was liable for his debts. This case and others like it show how difficult it was to establish property rights when only partial rights existed, strengthening the argument for "both" dates to be used. Indeed, Chatfield (2014) argues that these types of cases help explain why Mississippi granted women rights over their earnings, making investigations into how women purchased property unnecessary. See Chatfield (2014) also for a longer discussion on how partial rights created confusion in the US credit markets.

To understand the second point- that legislatures often required multiple rounds of legislation and that equalized rights came with earnings laws- consider New York. Geddes and Lueck (2002), Geddes and Tennyson (2013), and indeed much of the literature claim that New York gave married women property rights in 1848, while earnings rights were only given in 1860. Indeed, Section 1 of the 1848 bill states "[t]he real and personal property of any female who may hereafter marry, and which she shall own at the time of marriage, and the rents, issues and profits thereof shall not be subject to the disposal of her husband, nor be liable for his debts, and shall continue her sole and separate property, as if she were a single female."[7] It seems that this bill should clearly undo the distortion in incentives between real and moveable (personal) assets. However, if so, then it is curious that the 1860 earnings bill includes, in Section 2, explicit protection of *personal* property, declaring that " [a] married woman may *bargain, sell, assign and transfer her separate personal property*, and carry on any trade or business, and perform any labor or services on her sole and separate account, and the earnings of any married woman, from her trade, business, labor or services, shall be her sole and separate property, and may be used or invested by her in her own name. "[8] [emphasis added]

[7]The remaining sections of this bill reiterate that the husband has no power to dispose of her assets, that she can receive gifts and inheritances, and that the bill is not retroactive. See *New York Session Laws*, 1848 chapter 200, or Geddes and Tennyson (2013).

[8]See *New York Session Laws*, 1860 chapter 90, or Geddes and Tennyson (2013).

Given the 1848 law, why was the first part of this 1860 update necessary? We turn to *Dickerman vs. Abrahams* 21 Barb. 551 (1854) in the Supreme Court of New York, in which Justice J. Wright gives a legal overview of the 1848 law. He begins by noting that, under the reform, "[t]he disposition of her personal property and of the rents, issues and profits of her real estate had been taken from her husband, and lodged nowhere." That is, while the 1848 law indeed protected a wife's assets from her husband, they gave her no control over them, a by-product of her inability to contract, a capability which came later with earnings rights. Simply put, *no one* had control over a married woman's property after the 1848 law. Justice Wright continues by writing that "[i]n this dilemma, the legislature of 1849 found the wife ... adding the further power [to the wife] to convey and devise real and personal property, and any interest or estate therein, and the rents issues and profits thereof, in the same manner and with the life effect as if she were unmarried." While this 1849 act would appear to have fixed the mistake and given women equal rights over both assets, again Justice Wright disagrees, writing "[t]he words 'convey and devise' are technical terms relating to the disposition of interests in real property. It could not be technically or legally correct to speak of *conveying* personal property by a verbal sale of it, or of *devising* it by a last will and testament. Real property may be conveyed by deed or devised by will ... [h]ence has arisen the serious doubt whether the statute so far nullifies the common law as to give the wife power to contract at all in relation to her personal property or to do anything with her real estate, further than dispose of it by deed, without joining with her husband in the conveyance, or *devise* it by will. Certainly, if the power to be given to her to manage and contract as respects her property further than this, it is by implication."[9] Did the justice uphold this implication? Consistent with the idea that courts narrowly interpreted married women's property laws, Justice Wright wrote that he believed that "... it required more boldness than the lawmakers of 1848 possessed, to strike down, at one blow, all those marital relations that had impressed on them the sanction and wisdom of ages." Thus, there was still an incentive for women to hold real property: they couldn't do anything with their personal property, while they

[9]The emphasis on the words "conveying," "devising," and "devise" are original to Justice Wright.

did have meaningful rights over their real estate. The lawmakers of 1860, with the earnings act, showed the boldness Justice Wright found lacking in 1848 and truly equalized rights over the two types of assets. We did not pick this New York example randomly. Geddes and Tennyson (2013) discusses how the New York act was a model for other states. In particular, New Jersey copied the New York statute almost verbatim. Wisconsin, Virginia, and West Virginia all used language similar to that of New York. There is a caveat to the analysis in this paragraph, however: Justice Wright was dissenting from the majority opinion of the case. The majority opinion was that this particular case should not be tried under common law rules, and was silent on the issue of whether or not married women's common law legal disability had been fully reversed. The dissent was in two parts. First, Justice Wright argued that the case did indeed belong in a court of common law. Second, in his view, common law had not undone women's disabilities, as described here. As a dissenting opinion, Justice Wright's opinion was only *in dictum*.

Given the nuances of the timing of rights by state, we believe that Geddes and Lueck (2002)'s dates are appropriate both because the dates they report are most relevant for our distortion and because they maximize comparability with the literature. Use of "both" dates, rather than just property rights, maximizes the chances that states had indeed undone the distortion, as in New York, as well as because of the strong and economically important complementarity between rights. As such, it is our benchmark exercise. However, in Section D of this online appendix, we go through each state individually and try to determine ourselves the date on which each state passed laws that decisively undid the distortion in incentives for holding each type of asset, not taking complementarities in rights into account. We repeat all of our main exercises using these extra dates below, and find our results to be mostly similar to the benchmark.

Finally, we return to the issue of community property. As noted in the paper, eight states, namely Arizona, California, Idaho, Louisiana, Nevada, New Mexico, Texas, and Washington, had community property laws governing marital asset ownership and control, as per civil law tradition- rather than common law's doc-

trine of coverture.[10] Community property divided household assets into three classes: the husband's separate property, the wife's separate property, and community property. According to Spanish law, property of all types acquired after marriage, except for gifts and inheritances, became community property with each spouse having a 50% interest.

At first glance, these laws seem to preclude gender-based property rights discrimination after marriage, much less distortion in incentives to invest in real versus moveable assets. However, it is not so clear that this was the case in practice. Schuele (1994, p.260) describes the history of the Californian constitutional debate, indicating that the Americans involved in the debate had little understanding of the community property system they were adopting on paper, and indeed argues that the constitution "...did not clearly mandate a community property system." The constitution did call for further laws to be passed on the subject. Shortly after ratification, there was a large increase in migration from the rest of the United States, which pushed California to adopt common law as the jurisprudence of the state. As a result, Schuele (1994, p. 262) argues that "[l]egislatures appear to have been unable to ignore their common-law heritage and may even have been hostile towards property rights of married women. Contrary to the spirit of [the constitution], women were given no management rights over their separate property, much less over the common property." There were a number of other distinctions between Californian law and Spanish law. For instance, Spanish law considered the revenue generated by separate property, such as stock dividends, to be community property, while in California these dividends would remain the separate property of whichever spouse owned the stock (Schuele 1994, p. 279). Arizona also classified revenue from separate property to be part of the separate estate, under the influence of common-law lawyers (Lyons 1955).

Men had absolute control and interest over their own separate estate, and in practice they basically had the same rights over the community property. Of the great number of migrants into California during this time, "many of them, having reached adulthood in the East, might not have realized that California's

[10]Civil law refers to law coming from either French (Louisiana) or Spanish legal traditions.

marital property laws supposedly differed from those in the rest of the nation" (Schuele 1994, p. 262). This is especially true since Basch (1982) notes that, while many details of common law might have been lost on the general public, common law classifications of married women's rights were well represented in popular books and magazines of the time. Indeed, the confusion was so deep that two years after women were given property rights in California, state senator Laine was reported considering introducing a bill to re-establish common law in California, apparently unaware that common law had never been imposed in the first place (Schuele 1994). As such, de Funiak (1943), as cited in Schuele (1994, p.25), found that "[m]any lawyers trained in the common law ... seem to fail to comprehend ... that the management of the common property placed in the husband was an administrative duty only ... and not in any sense the equivalent of the common law 'control' by the husband to the wife's property which made him virtual owner and gave him the right to appropriate its use to his own enjoyment and benefit." While technically community property was bequeathed according to each spouse's 50% interest in it, the husband had full management rights and "... with almost his last breath, he [could] convey away the community property so deftly that no known law [could] reach it" (Stow 1877, p. 65). That is, the husband can convey or gift community property as he wished up until his death, which perhaps undid any measure by which the woman's interests in community property were protected.

A husband also had absolute management over his wife's separate property, with the stipulation that he must manage it for her "benefit"-a poorly-defined term. Given that people's understanding of property definitions was erroneously based on common law (Schuele 1994), it is reasonable to assume that most husbands would not alienate a women's separate *real* property, while doing as they wished with her moveable property. More importantly, parents, who might bequeath their daughters assets, presumably did not understand the level of protection a daughter enjoyed on paper (if not in reality). For example, the difference in treatment between real and movable assets is particularly noticeable in New Mexico. A 1901 in the state amendment required that wives agree to all sales and mortgages involving the common real estate before such transactions could occur. Courts decided that this did not apply to moveable assets, which

remained in the absolute control of husbands (Lyons 1955). It seems reasonable to assume that other community property states, which are mostly in the west, went through similar experiences.[11] As noted in the main paper, since the basic hypothesis of this study seems to stand in community property states, we include these states in our benchmark exercises. However, we perform robustness exercises in which we drop these community property states, and which verify that these states are not biasing the results of our empirical work. Table 4 of the main paper shows this robustness test for the portfolio exercise. Table H.9 of this appendix includes specifications dropping community property states from the credit regressions (main paper Section 5.2). Table H.10 includes a specification dropping community property states from the main industrialization regression, while Table H.11 does so in the industrialization regression border analysis (main paper Section 5.3). Finally, Table H.12 includes a specification dropping community property states from the capital intensity regressions (main paper Section 5.4).

Finally, we compare the dates in Geddes and Lueck (2002) to the others in the literature. There are several sets of property rights dates in the literature, including Hoff (1991), Khan (1996), and Geddes and Lueck (2002). Why are there so many dates? Property laws were passed by state legislatures, generally narrowly interpreted by courts (Chused 1983, Zeigler 1996), and updated again. As such, the statement that women had property rights in a given state in a given year could be intended to mean more than one thing, and thus determining the cutoff for when rights were obtained is a matter of author discretion. Other issues legislated over included the right to write a will, purchase life insurance over their husband, contract, sue and be sued, etc. Unsurprisingly, there is little consensus in the literature as to which date a given state granted any particular type of rights. Indeed, Roberts (2007) discusses the difference in the dates attributed to women's rights by various scholars and concludes that "[t]he disagreement among scholars about the effective dates of passage is in some ways illustrative of the convoluted process of property law reform."[12] Turning to in-

[11]For a fascinating study of the history of the relationship between civil law and common law in Texas, see Lazarou (1980).

[12]See Chatfield (2014) for an in-depth study of the process of giving women rights in Missis-

dividual sets of dates, Hoff (1991) reports many dates, divided into categories called "wills," "debt-free estates," "feme sole status," "personal estate access," "separate estates," and "earnings acts."[13] Her purpose is to give a set of dates on which different types of legislation were passed as part of a general history of the era, rather than to take a stand on which dates are economically meaningful. For instance, for West Virginia she lists two dates for "debt-free estates," two dates for "feme sole status," four dates for "separate estates," and three dates for "earnings acts" (Hoff 1991, pp.381). However, she does not clarify the differences between bills, and thus which date is relevant. The property rights dates in Kahn (1996) are not relevant for us as the author is interested in the dates at which women had the rights over earnings from patents, rather than rights over moveable property. For instance, Kahn dates New York's property law to 1845, three years before the unsuccessful law described above was passed. In the end, we follow Geddes and Lueck (2002). Their methodology in dating rights is "[f]or control of property, we used the earliest year a state passed an act allowing married women management and control of their separate estate (similarly for earnings). If a state passed a married woman's property act, but the act did not grant the woman management and control of her separate estate, then this date was not used. This approach provides a specific characterization of married women's property that emphasizes control by the wife" (Geddes and Lueck 2000, p. 65). Geddes and Tennyson (2013) also report dates that are quite similar to those in Geddes and Lueck (2002), and their paper is useful as a secondary source in the appendix discussed below. Notice that Geddes and Lueck (2002) are specifically interested in control over the separate estate, rather than exemption from a husband's creditors, which allows for protection from a woman's husband. Protection from a woman's husband is the heart of the distortion we are interested in studying.

sippi, South Carolina, New York, and California. The paper does a particularly good job describing the seesaw process of women's rights in South Carolina, in light of both partisan power struggles in the aftermath of Reconstruction and legal interpretation in the courts.

[13] "Wills" was the right to write a will, "debt-free estates" was the exclusion of a wife's assets from her husband's debts, "feme sole status" was the right of an abandoned woman to engage in business, "personal estate access" was the right of a widow to access a husband's personal estate, "Separate estates" was the right to have separate property, and "Earnings acts" were rights over labor market earnings.

D Alternative Dates Appendix

In this section, we first discuss an alternative strategy to dating the timing of women's economic rights by state, and then repeat our main exercises. We find our results to be generally robust to the dates described below.

Our exercise is to determine, state by state, the date at which there was no longer a distortion in the incentives to invest in different types of assets, ignoring any interaction between earnings and property laws. For the reasons we give in Section 3.1 of the main paper, we believe the benchmark exercise is more appropriate. This exercise is for completeness only.

The undertaking here is not simple. Going through each state and analyzing each law, the subtleties of their language, how they were interpreted, and whether or not states looked to particular other states for guidance in order to understand when exactly the distortion was undone is a truly Herculean task that requires a specialist in 19th century law. For instance, as described above in Section C, New York's legislature took three attempts over twelve years to undo the investment distortion, each time failing as *the lawmakers themselves did not fully understand the legal implications of their law changes*. Secondary sources are not necessary helpful. For instance, Kelly (1882) makes no mention of the 1848-49 blunders when describing laws in New York. He is simply not concerned about the history of the economic distortion of interest in this paper, and rather is trying to inform the reader on the then-current (1883) state of the law, with some relevant background from a particular state's history.

There is also a degree of freedom in these laws. After New York's 1849 bill, men could no longer appropriate their wives' personal property. However, women could not fully use their property either, as *Dickerman vs. Abrahams* 21 Barb. 551 (1854), described above in Section C, points out. Thus, there was a distortion in incentives to hold each type of asset. However, the distortion was certainly less than it had been prior to the 1849 law. Is this enough for our purposes? It is not immediately clear. What about Pennsylvania? As described below, Geddes and Lueck (2002) use 1872, while Geddes and Tennyson (2013) use 1887, arguing that previous laws were not strong enough to qualify. We found ourselves agreeing

with Geddes and Tennyson (2013) that the earlier laws were not strong enough to count as reversing the distortion, a view supported by O'Brien (1901). However, it turns out that in 1872, the year earnings rights were given, there were a large number of banks that were granted a special charter to specifically accept deposits from married women. This is obviously a crucially important right from our paper's perspective, and thus we use 1872 for Pennsylvania in this analysis.

Considering the issues in the approach taken in this section, we consider this to be a robustness test at best. We maintain that the dates used in the main analysis should be those from Geddes and Lueck (2002).

D.1 Dates

Since we perform a separate robustness test where we exclude community property states, we do not update their dates here, and instead use the dates as reported by Geddes and Lueck (2002). Unless otherwise specified, when we say below that Geddes and Lueck (2002) or Geddes and Tennyson (2013) "use a date," we mean that that is the date cited for *property* rights, rather than both property and earnings rights. Below, we list the common law states followed immediately by the date used in this robustness exercise.

- Alabama: 1867. Geddes and Lueck (2002) use 1887 as a "both" year, with 1867 being the year property rights were granted. Geddes and Tennyson (2013) found this law too weak to constitute a true property rights bill, and instead argue that Alabama did not give women property rights until after 1920. Kelly (1882) also argues the bill was weak, noting that the bill allowed women to hold both types of property, but not manage them. However, for our purposes, the bill undoes the distortion in that there there are equal rights over both assets. We thus use 1867.

- Arkansas: 1873. Both Geddes and Lueck (2002) and Geddes and Tennyson (2013) use 1873 as both the property date and the earnings date. Kelly (1882) makes it clear that, with this act, women could hold all types of property. Property had to be registered; and any property not registered was considered the husband's by default.

- Colorado: 1861. Kelly (1882), while vague on which is the exact date, makes it clear that "[t]he statute asserts her individuality, and emancipates [a wife's] from the common law disabilities." There is disagreement between Geddes and Lueck (2002), who use 1868, and Geddes and Tennyson (2013), who use 1861. The *Territorial Laws of Colorado*, 1st session 1861, includes "An Act to Protect the Rights of Married Women" (p. 152, Nov. 7, 1861), that indeed strongly protects women's rights.

- Connecticut: 1877. Both Geddes and Lueck (2002) and Geddes and Tennyson (2013) use this date. Geddes and Tennyson (2013) in turn cite Kelly (1882) who writes that after this date husbands did not acquire any "right to, or interest in, any property held by the other before the marriage, or acquired after the marriage, except as to dower, and such the property of wife shall be held by her to her sole and separate use" (Kelly 1882, pp.337)

- Delaware: 1873. While Kelly (1882) mentions a minor update in 1875, he also discusses in detail the statute of 1873, which was far reaching. Accordingly, Geddes and Lueck (2002) and Geddes and Tennyson (2013) use this date as well. A weaker bill was passed in 1865 that left the husband with veto power over his wife's real property, and gave her limited protection over her moveable property including "...mortgages, stocks, and silver plate ..." (Kelly 1882, p.343). Since the protection was so weak, and did not include all forms of movable property, especially bank accounts, we side with the literature as to 1873 being the appropriate date.

- Florida: 1943. Kelly (1882) notes that the constitution of Florida in 1868 protected the wife's assets as her separate estate was protected from her husband's creditors. An 1881 statute seems to have mostly left coverture intact, but changed how assets were bequeathed to the next generation. Both Geddes and Lueck (2002) and Geddes and Tennyson (2013) do not recognize either the constitution or the statute of 1881 as sufficient to count as a married women's property act, and instead use the 1943 act, which gave clear management and control rights, as the appropriate act of reference. We concur.

- Georgia: 1873. Both Geddes and Lueck (2002) and Geddes and Tennyson (2013) use this date. Geddes and Tennyson (2013) in particular note that the 1873 act lets women hold up to $2,000 in a bank account on her own, which they calculate to be approximately $50,000 in 2011 on an inflation adjusted basis. Accordingly, we concur with 1873 as the appropriate act.

- Illinois: 1861. Kelly (1882) reports a strong property act in 1861. In particular, this act allowed a woman to hold all of her own separate property "...free from the control or interference of her husband ..." (page 360). Geddes and Lueck (2002) and Geddes and Tennyson (2013) both agree that this is the appropriate property act date, while earnings rights came later in 1869.

- Indiana: 1879. This is the date used by both Geddes and Lueck (2002) and Geddes and Tennyson (2013), who in turn note that they cannot find any earlier bills. Kelly (1882) describes this as a "generous" law, and does not mention any relevant acts beforehand. Geddes and Tennyson (2013) note that the act left "little doubt that control remains with the wife."

- Iowa: 1873. Geddes and Lueck (2002) and Geddes and Tennyson (2013) both use this date. Kelly (1882) also references this date when discussing women having the ability to do with their property as men can, supporting it as the genuine date.[14]

- Kansas: 1858. While Kelly (1882) mostly discusses the 1868 law, it seems to be a minor extension of the 1858 law, such that Kelly (1882) doesn't bother to describe the differences. Both Geddes and Lueck (2002) and Geddes and Tennyson (2013) use 1858.

- Kentucky: 1873. There is disagreement in the literature as to which date is the relevant one, with Geddes and Lueck (2002) picking 1873 while Geddes and Tennyson (2013) report 1894. Kelly (1882) seems to agree that the

[14] As a side note, there was an 1870 law in Iowa that prevented husbands from accessing their wives' labor market earnings. However, this law didn't give those earnings to the women, a mistake corrected in 1873. This is reminiscent of the mistakes made by the New York legislature, described in Section 3.1 of the main paper.

1873 bill was weak. However, as can be seen in the General Statutes of the Commonwealth of Kentucky, 1873, women's right to own stocks and bank accounts is protected, with control given to the wife (p. 532). This seems to be strong enough to undo the distortion we are interested in, and as such we use 1873.

- Maine: 1855. Geddes and Lueck (2002) and Geddes and Tennyson (2013) use 1855, as in that year there was a property act that gave women the power to "...lease, sell, convey and devise ...," implying strong control. Earlier legislation in 1844 was a debt statute. Kelly (1882) seems to agree with this interpretation of Maine law.

- Maryland: 1860. Geddes and Lueck (2002) and Geddes and Tennyson (2013) both use 1860 as the property rights date. Kelly (1882) is also quite clear that "[p]rior to the revisions of the laws in 1860 the statue merely protected the property of the wife from the debts of the husband, and did not take from him the ownership which the common law gave him by virtue of the marriage ..." (p. 405). The 1860 act provided wide protection for the wife, but still required the husband to consent to transfers.

- Massachusetts: 1845. There were two relevant acts: one in 1845, used by Geddes and Lueck (2002), and a second in 1855 used by Geddes and Tennyson (2013). According to Kelly (1882), the 1845 act enabled women to create ante-nuptial contracts that allowed them to protect all forms of assets from their husbands, even those acquired after the marriage by deed or will. The powers given to women were broad, including rights to sue and be sued. A previous act in 1842 allowed for women to make wills. This seems to be strong enough to allow for parents of women to be indifferent over which types of assets to bequeath to their daughters. The 1855 act made these contracts automatic; there was no need for an ante-nuptial contract in order for women's assets to be safe.

- Michigan: 1855. Prior to 1855, as provided by the 1850 constitution, married women in Michigan enjoyed the protection of debt statutes and the ability to write a will as if she were unmarried. The 1855 law provided wide-scale

protection for all of the wife's property, and Kelly (1882) emphasizes that the property could be acquired in any manner. We add a caveat that the exception to this would be property acquired by her own labor, as earnings laws would not be enacted in Michigan until 1911. Accordingly, both Geddes and Lueck (2002) and Geddes and Tennyson (2013) use 1855 as the appropriate date. We concur.

- Minnesota: 1869. Both Geddes and Lueck (2002) and Geddes and Tennyson (2013) use this date for both property and earnings rights. See *General Laws of Minnesota for 1869*, Chapter 56, Section 1, which describes a married woman as being able to use and enjoy her property, contract, and be "...free from the control of her husband ...as if she were unmarried."

- Mississippi: 1871. Geddes and Lueck (2002) use 1871 while and Geddes and Tennyson (2013) argue that 1880 was a stronger bill. After reading Kelly (1882), we believe that the incentive distortion was undone in the 1871 bill. Kelly (1882) writes that "[i]n the revision of 1871 the law provides that all the property owned by a married woman before her marriage or acquired during coverture should be her separate estate ...[t]he rents, issues, profits, products and income of such property became her separate estate, and she was empowered to invest the same, or any money acquired by her, and the investment would become separate estate" (p. 428).

- Missouri: 1875. Both Geddes and Lueck (2002) and Geddes and Tennyson (2013) agree that this is the date. Kelly (1882) cites an 1879 statute that appears to have similar wording to the 1875 act, justifying the use of the earlier date (Geddes and Tennyson 2013). There does not seem to be a meaningful property act before this date.

- Montana: 1887. Both Geddes and Lueck (2002) and Geddes and Tennyson (2013) use this date, as earlier legislation was simply debt statutes.

- Nebraska: 1871. Both Geddes and Lueck (2002) and Geddes and Tennyson (2013) use this date. Kelly (1882) does not directly discuss this statute, instead focusing on the statute of 1881, which gave the wife an estate for her

sole use "...free from the disposal or debts of her husband" (p. 438). Interestingly, this law applied to women arriving from other states as well. However, the language is similar to the 1871 act, so we use the earlier date for this study.

- New Hampshire: 1861. See *New Hampshire Laws, 1860* p. 2248. This law is quite clear that women could own their own property free from interference from their husbands, and accordingly is the law used by both Geddes and Lueck (2002) and Geddes and Tennyson (2013). Since it became effective only in August, after the census month of June, we set 1861 to be the date for women's rights, as coverture was still in effect during the census of 1860.

- New Jersey: 1874. Both Geddes and Lueck (2002) and Geddes and Tennyson (2013) use 1852 as the relevant date. However, that statute is a copy of New York's 1848 bill (Kelly 1882), which, as discussed in Section 3.1 of the main paper, was flawed. As such, we use the year in which women were given rights over both their property and earnings as the appropriate year for our study. Indeed, the 1874 bill that did so allowed women to "convey any interest in real or personal property" as long as they had "the concurrence of the husband." While this does not constitute full rights, as husbands had to concur, the distortion seems to have been removed. See *Revision of the Statutes of New Jersey 1877*, p. 640.

- New York: 1860. This choice is described at length in Section 3.1.

- North Carolina: 1868. The state constitution, adopted in 1868, protects women's property rights quite strongly, as explained in Kelly (1882). We therefore follow Geddes and Lueck (2002) and Geddes and Tennyson (2013) in using this date.

- North Dakota: 1877. The code of 1877 explicitly states in Section 78 (p. 247) that "...neither husband nor wife has any interest in the property of the other ..." Section 82 expands on this clarifying that "[t]he wife may, without the consent of her husband, convey her separate property." Accordingly, we follow Geddes and Lueck (2002) and Geddes and Tennyson (2013) in using this date.

- Ohio: 1861. We follow Geddes and Lueck (2002) and Geddes and Tennyson (2013) in using this date, who in turn argue that Kelly (1882) agrees with this interpretation. For an extended legal history of married women's property rights in Ohio, see Chused and Williams (2016) "Gendered Law in American History", chapter 2.

- Oklahoma: 1910. Kelly (1882) is silent on Oklahoma, suggesting that there was no significant act before the publication of his treatise in 1882. Geddes and Lueck (2002) cite the 1910 act. Geddes and Tennyson (2013) report that the 1883 property act granted control over a married women's separate property, specifically Section 8. While that section is clear in that husband and wife may jointly own real or personal property, it only says that the wife may "convey her separate property" which presumably refers only to separate real property.[15] She is allowed to register a "complete inventory" of her separate property, but it is unclear if she has the same control rights over her separate personal property as she does over her separate real property. The lack of such rights would be a distortion. Geddes and Tennyson (2013) then note that, in 1910, there was a "sweeping statement regarding a woman's equal legal existence." The 1910 law clearly states in Section 3363 (p. 840) that a "[w]oman shall retain the same legal existence and legal personality after marriage as before marriage, and shall receive the same protection of all her rights as a woman, which her husband does as a man; and for any injury sustained to her reputation, person, property, character or any natural right, she shall have the same right to appeal in her own name to the courts of law or equity for redress and protection that her husband has to appeal in his own name alone: Provided, that this chapter shall not confer upon the wife a right to vote or hold office, except as is otherwise provided by law."[16] It seems that this should be strong enough to protect her rights over both types of assets. As such, we side with Geddes and Lueck (2002) in using 1910.

- Oregon: 1878. While Kelly (1882) is silent on the exact timing of married

[15] As noted in Section C, the word "convey" only applies to real property.

[16] The 1910 law gives women rights over their earnings when abandoned by their husband, and protects a wife's earnings from her husband's creditors.

women's property rights in Oregon, he confirms their existence by 1882. Geddes and Lueck (2002) and Geddes and Tennyson (2013) both use 1878, while analyzing the *General Laws of Oregon 1843–1872* to exclude previous dates.

- Pennsylvania: 1872. Geddes and Lueck (2002) and Geddes and Tennyson (2013) use the 1848 law, which we interpret as a debt statute. The 1848 law, while seemingly broad, was not widely held up in courts, as demonstrated by O'Brien (1901)'s argument that "...this Act, as well as those which so far have been adverted to, is in derogation of the common law and therefore to be construed strictly" (p. 527).[17] This act did succeed, however, in acting as a debt statute. O'Brien (1901) indeed acknowledges that "[p]rior to the Act of 1848 the property of a married woman could be taken in execution for the debts of her husband by his creditors." Accordingly, we reject 1848 as the appropriate date. O'Brien (1901) further argues that the 1887 law "...was passed which was intended ...[to give] to a married woman as large property and contractual rights as would be consistent with a proper protection, necessary for the inexperience in business affairs and easy influenced character of her sex" (p. 528). While the 1887 bill was indeed strong protection for women, we use 1872 as the correct date for the purposes of this paper. While Geddes and Tennyson (2013) and O'Brien (1901) refer to 1872's earnings act, No. 24 on p. 35 of the *Laws of Pennsylvania of the Session of 1872*, we note that Section 11 of No. 191 specifically protects married women's bank deposits from husbands at the "Iron and Glass Dollar Savings Bank of Birmingham," while No. 220 protects them at the "Savings Bank of Franklin," No. 228 protects them at the "North Lebanon Savings Bank," No. 236 protects them at the "Dollar Savings Bank of Waynesburg," and so on. Accordingly, it seems that the legislature went out of its way to allow married women to hold bank accounts separate from their husbands, undoing the relevant distortion for this study. Accordingly, we pick 1872 as our date. Kelly (1882) reports 1872 as being the date of the earnings law, rather than property rights, but as he was not specifically interested in the

[17] O'Brien (1901) was a commencement address at Temple College Law School in 1901.

distortion we are studying, he likely ignored the acts we mention here.

- Rhode Island: 1872. While Geddes and Lueck (2002) use 1848, Geddes and Tennyson (2013) argue that this was a debt statute and that 1872 is the relevant date. Our reading of Kelly (1882) supports this view.

- South Carolina: 1868. This act was part of the postbellum constitution, and is cited by both Geddes and Lueck (2002) and Geddes and Tennyson (2013) as the appropriate date for property rights. Kelly (1882) also supports this view.

- South Dakota: 1877. Geddes and Lueck (2002) and Geddes and Tennyson (2013) both use this date. The *Revised Codes of the Territory of Dakota, A.D. 1877* agree with this interpretation, explicitly stating in Section 78 of Chapter 3 "...neither husband nor wife has any interest in the property of the other ..."

- Tennessee: 1919. Geddes and Lueck (2002) and Geddes and Tennyson (2013) both use this date. Geddes and Tennyson (2013) in particular note that, while some researchers use the act of 1870, that particular law only was related to real estate, which if anything would have made the investment distortion worse.

- Utah: 1872. Geddes and Lueck (2002) uses 1895 for property rights and 1897 for "both" rights, a view supported by others in the literature as summarized in Roberts (2007). Geddes and Tennyson (2013) uses 1872 for property rights. Indeed, chapter 17 of the *Laws of the Territory of Utah* (1872) clearly states "[t]hat all property owned by either spouse before marriage, and that acquired afterwards by gift, bequest, devise or descent, with the rents, issues and profits thereof, is the separate property of that spouse ...without any limitation or restriction by reason of marriage." Notably, the entire section on married property rights does not include any gendered language.

- Vermont: 1881. Geddes and Lueck (2002) and Geddes and Tennyson (2013) both use this date. Kelly (1882) makes it clear that this law applied to personal property as well, while previous laws were merely debt statutes.

- Virginia: 1877. Geddes and Lueck (2002) uses 1878, while Geddes and Tennyson (2013) uses 1877. Kelly (1882) agrees with this interpretation. The legal difference between the two bills is small, and the difference in timing is small quantitatively, such that we simply choose the earlier date.

- West Virginia: 1868. Geddes and Lueck (2002) and Geddes and Tennyson (2013) both use 1868 as the property date. Geddes and Tennyson (2013) claims that the law was on the books in 1870, with a note that it had become effective in 1868. Kelly (1882) makes it clear that this law protected women quite strongly against expropriation by their husbands; however, he seems to suggest that the law was enacted in 1866. The difference between these two dates is minor, so we continue with 1868 in order to be consistent with the literature.

- Wisconsin: 1872. There was a law in 1850 that was adopted virtually verbatim from New York's 1848 law (Kelly 1882, p. 541). This law is used by Geddes and Tennyson (2013) and Geddes and Lueck (2002); however, it is potentially problematic due to the issues with New York's 1848 law, as discussed in Section 3.1 of the main paper. In 1872 women were granted rights over their earnings and the right to write a will, which is important for the ability to bequeath moveable assets. We accordingly use 1872.

- Wyoming: 1869. Both Geddes and Lueck (2002) and Geddes and Tennyson (2013) use this date as the law constituted a strong property act and earnings act. Kelly (1882) is silent on this issue, and we are unaware of any laws that came before.

Figure H.3 compares the dates described above with the "both" dates from Geddes and Lueck (2002) used in the main exercise. We order the states such that the states with the biggest difference in years are on the left. Michigan has the greatest change in the year rights are granted, as property rights came in 1855 with earnings rights only coming in 1911. Massachusetts has the smallest change, as property rights were granted in 1845 and earnings in 1846. In all, this robustness exercise changes the dates of 11 states.

D.2 Results

There are four sets of exercises we perform in the main paper, studying the effects of rights on portfolios (Section 5.1), credit markets (Section 5.2), labor allocations (Section 5.3), and labor allocations by capital intensity (Section 5.4). As it happens, the dates detailed above impart changes to the set of states granting rights between 1860 and 1870. As such, we skip the portfolio exercises.

Turning to the credit exercises, Table H.3 recreates Table 6 from the main paper with the dates enumerated above. Rights affect interest rates even more than in the benchmark exercise, with interest rates falling 80–101 basis points after rights are granted, and are significant at the 1% level. The results on deposits and loans are quite similar to the benchmark exercise quantitatively, but somewhat less statistically significant. Table H.4 recreates Table 7 in the main paper with the dates enumerated above. Columns 1–3 are quite similar to their counterparts in Table 7 from the main paper. The remaining columns show point estimates within 1–1.5 standard errors of their counterparts from Table 7 in the main paper, but are not uniformly statistically significant at the 10% level. The exercise on labor allocations by capital intensity do not generate any statistically meaningful relationship.

We conclude that the results are generally robust to the use of these alternate dates.

An additional interpretation of these results is a breakdown of the main results into the part that is purely due to property rights, rather than earnings rights or the interaction between earnings and property rights. It is more difficult to do the same exercise in reverse, as the vast majority of states passed earnings rights either after or at the same time as property rights. Thus, performing this exercise on the earnings dates also captures the interaction between earnings and property rights.

It is not safe to say that the main results are due to earnings rights: all but 6 states gave earnings rights after property rights. Virginia gave earnings rights 1 year before property rights (1877 vs 1878), Iowa 3 years (1870 vs 1873), Oregon 6 years (1872 vs 1878), Washington 8 years (1881 vs 1889), Maryland 18 years (1842 vs

1860), and Florida 51 years (1892 vs 1943). This does not leave much variation to separately identify the effects of earnings rights versus the interaction of earnings and property rights. The nature of the interaction between these two types of rights, and the fact that few states gave earnings rights prior to property rights, makes it difficult to identify which specific law change drives each regression.

E Usury

Usury laws set a maximum rate of interest that can be charged on loans, as well as specify penalties for breaking the law.[18] In this section, we first briefly summarize the economics literature that deals with state-level usury laws in the 19th century, then discuss issues with dating usury laws by state, and finally date usury laws by state. These dates are used in our analysis of credit markets in Section 5.2 of the main paper.

Rockoff (2009) argues that "usury laws had a substantial impact on the structure of lending." However, the focus of that paper is to give an overview of usury laws from antiquity to 1900, as well as a discussion in their place in the history of economic thought, rather than prove the claim that usury laws had an impact. It is not obvious that such laws would have an impact on credit markets, given that the main historical sources are ripe with discussions on how easily people were able to avoid usury laws, both legally and illegally. Lenders could charge loan origination fees and late fees to circumvent these laws (Rockoff 2009). Usury laws were on the rate received by lenders, rather than the rate paid by borrowers, such that lenders could include intermediaries in loans to implicity increase rates (Holmes 1892). Additionally, Holmes (1892, p. 450) argues that "[i]t is an acknowledged exception to the statute of usury that, when the principal is subject to substantial risk, more than the maximum legal rate may be received. But this risk must not be the ordinary possibility of debtor's insolvency. Examples of risk that is sufficient to make an exception to the statute are found in a contract to repay a loan with a certain number of heifers or bushels of corn, and in agreement that advances for victualling a ship should be repaid with usury upon its return from a voyage – the risk in these cases being the possible fall in the price

[18] We refer to "usury laws" and "maximum legal rates of interest" interchangeably.

of heifers or corn, and the possible failure of the ship to return."

Benmelech and Moskowitz (2010) study the evolution of usury laws, by state, over time. They find that lending volume increases with looser usury laws; that usury penalties are tougher when usury laws are more binding; relaxed usury laws lead to higher growth rate for small farms (but not large farms); states tend to relax usury laws when market interest rates approach/exceed the maximum legal rate and during financial crises; and that states respond to neighboring laws, presumably as a method of competing for capital; states restrict usury laws during times of greater incumbent firm power, presumably as the incumbents try to keep entrants from accessing capital.

Both Rockoff (2009) and Benmelech and Moskowitz (2010) use Holmes (1892) as their source of usury laws by state-year. Holmes (1892), however, only provides data through the end of 1891, and to the best of our knowledge, no other paper has updated these laws by state-year through 1920, the end of our sample. Ryan (1924) provides an overview of the history and rational of usury laws, as well as in-depth studies on legal issues surrounding the laws in some states of the US. He provides a snapshot of usury laws as of 1921, as well as a snapshot of related laws such as state level small-loan laws, attempts at unifying these laws ("uniform small-loan law"), and pawnbroking laws.[19] However, these data are a snapshot of 1921, and not a history of the 30 years since Holmes (1892).

Our launching point for this section is to follow Holmes (1892) as closely as possible, and extend his data series through 1920. To this end, we use secondary legal sources whenever possible. When not possible, our methodology is as follows, unless otherwise stated. First, we locate the current usury laws, by state, searching through "Statutes & Court Rules" and "Regulations" on Thomson Reuters Westlaw, henceforth "Westlaw", by searching for "Maximum Legal Rate of Interest" or "Usury". We then use the citations from these laws to find the code and section number of each historical update. We then locate each cited update and include them in our data set below. If there is no reference in Westlaw to

[19]Usury laws did not apply to all types of loans, hence the extra sets of laws examined by Ryan (1924). See Holmes (1892) and Ryan (1924) for a description of when each type of law did and did not apply.

usury laws prior to 1920, we double check state codebooks for updates. We then compare with Ryan (1924) in 1921. The implicit assumptions behind this analysis are that there were no updates in between the times cited by the state legislatures themselves, and that the courts upheld the laws as written. Neither assumption is perfect, and thus implies measurement error in our time series. However this seems to be the approach taken by both Holmes (1892) (as well as Ryan (1924)), and thus creates consistency in our data set before and after 1891.

For each state, we first quote Holmes (1892) and then extend his findings through 1920 as described above, including a comparison with Ryan (1924). Notice that we do not include the National Currency Act's, listed below for many states, in our analysis. While Benmelech and Moskowitz (2010) don't specifically address this issue, it seems that they do the same thing. Amonette (1916) argues that "[a]n analysis of the statute makes evident the fact that the rate of interest which a national bank may take, receive, reserve, or charge is determined by the law of the state in which the bank is situated. If, in any state a different rate is limited for the banks of issue organized under the laws of that state, then the national banks in that state are permitted to charge the same rate or rates as are allowed the state banks. If no rate is fixed by the laws of the state in which the national bank is located, then such bank is allowed to take, receive, reserve, or charge interest at the rate of seven per centum . . . ." Notice that if a state does not have a maximum rate, then the *national* banks are limited, but not the other banks in the state.

- Alabama. Holmes (1892) writes: "1805, six per cent - penalty, loss of interest; 1818, any rate; 1819, eight per cent - penalty, loss of illegal interest; 1820, penalty, loss of principal and interest and forfeiture of the amount of the same; 1852, penalty, loss of interest."

  Via Westlaw, we found the 1975 Alabama code Section 8-8-1 "Maximum rates of interest– Generally", which in turn reports that the code was updated between 1891 and 1920 in the Code of 1896 (Section 2626) and Code of 1907 (Section 4619).

  - 1897 maintained 8% rate of interest and loss of interest, not principle,

as punishment.

  - 1907 maintained 8% rate of interest and loss of interest, not principle, as punishment.

Ryan (1924) confirms that 8% was the maximum legal rate in 1921, with the penalty being the loss of interest.

As such, we use 8% as the maximum legal rate during the entire time period.

- Arizona. Holmes (1892) writes: "1865, any rate, subject to the provisions of the National Currency Act, as above." Here, the "above" is referring to the National Currency Act, which was binding in Alaska.[20] Regarding that law, Holmes (1892) writes: "National Currency Act, in force June 3, 1864, national banks are limited to seven per cent, with penalty of loss of interest and forfeiture of twice the amount of the illegal interest received."

  - 1913 Section 2505. Maximum interest rate of 10%. Penalty is loss of interest.

  We were not able to locate any other updates to the Arizona law in our time period. Ryan (1924) confirms that 10% is the maximum legal rate in 1921, and the lender forfeits interest as a penalty.

  As such, we set no maximum legal rate prior to 1913, and 10% afterwards.

- Arkansas. Holmes (1892) writes: "1808, ten per cent - penalty, loss of interest; 1838, penalty, loss of principal and interest; 1868 (constitution), any rate, except that national banks come under the National Currency Act; 1874 (constitution), ten per cent-penalty, loss of principal and interest."

  Galchus (1989) study the history of usury laws in Arkansas between 1836 and 1990. They make it clear there were no legislative changes in Arkansas between the 1874 constitution and the 1950s.

  Ryan (1924, p.205) confirms that "[p]arties may agree verbally or in writing for ten per cent" in 1921.

[20] We do not study Alaska as it is not in our sample.

As such, we set 10% as the maximum legal rate prior to 1868, no legal maximum between 1868 and 1874, and then 10% thereafter.

- California. Holmes (1892) writes: "1850, any rate, subject to the National Currency Act after June 3, 1864."

  From our reading and from Coffin (1928), it seems that the first usury law in California was the 1918 statute which set the maximum legal rate at 12%. Coffin reviews the legality of this law.

  Ryan (1924) confirms that the maximum legal rate was 12% in 1921. The lender forfeits three times the excess interest as a penalty for usury. Usury was a misdemeanor punishable by fine and imprisonment.

  As such, we set no maximum legal rate prior to 1918, and 12% thereafter.

- Colorado. Holmes (1892) writes: "1861, any rate, subject to the National Currency Act after June 3, 1864."

  Siegman and Linquanti (Spring 1983) find that Colorado first introduced usury laws in 1913. The maximum legal rate was set at 12% with a penalty included voiding the entire loan. However, people could get around this restriction if they first registered with and were licensed by the Colorado Bank Commissioner.

  Ryan (1924) finds no legal limit in 1921.

  As such, we set no legal limit in Colorado.

- Connecticut. Holmes (1892) writes: "1702, six per cent - penalty, loss of principal and interest and forfeiture of the amount of the principal; 1849, penalty, loss of interest; 1854, six per cent for banks - penalty, fine of not less than $500, but not applicable to savings banks; 1872, any rate, subject to the National Currency Act; 1873, seven per cent - penalty, forfeiture of the amount of the interest; 1875, seven per cent for savings banks - penalty, fine of $1000 to $5000; 1877, any rate, subject to the National Currency Act."

  We find no evidence that this law was updated before 1949, when the current 12% rate was set. In particular, the 1902 and 1918 General Statutes of Connecticut do not seem to have any maximum legal rates of interest.

Ryan (1924) also finds no legal limit in 1921.

As such, we set a 6% maximum prior to 1872, no legal limit in 1872, 7% from 1873 to 1876, and none thereafter.

- Delaware. Holmes (1892) writes: "Before 1721, date unknown, eight per cent; 1721, Six per cent -penalty, loss of principal and interest; 1855, banks limited to one per cent for 60 days -penalty, forfeiture of charter and directors to be fined."

  The current law, through Westlaw, fixes interest rates to be no more than 5% above the the Federal Reserve discount rate (see 6 Del. C. Section 2301). This law in turn only cites many previous laws, presumably updating legal interest rates, but only 1 in our time period: 28 Laws 1915, ch. 213. 2621 Sec. 1 sets the maximum legal rate to 6%. Excess paid interest is recoverable.

  Ryan (1924) finds a maximum legal rate of 6%, with a penalty of forfeiture of the amount loaned.

  As such, we set 6% to be the maximum legal rate for our entire time period.

- Florida. Holmes (1892) writes: "1822, any rate; 1830, ten per cent - penalty, loss of principal and interest; 1832, any rate; 1833, ten per cent - penalty, loss of interest due; 1844, eight per cent - penalty, the same as before; 1866, any rate, subject to the National Currency Act; 1891, ten per cent- penalty, loss of interest and forfeiture of double the illegal interest received."

  From Westlaw, we see that usury laws were updated during our time period in Laws 1891, chapter 4022, Section 2; General Statutes 1906, Section 3105; Laws 1909, Chapter 5960, Section 2; and General Statutes 1920, Section 4851.

  - 1891: 10% is the maximum legal rate of interest, with a penalty of loss of interest.
  - 1906: 10% is maximum legal rate of interest, with a penalty of loss of interest.

- 1909-1920: Not found, however it seems that the law was continuous, as Ryan (1924) finds that the maximum legal rate in 1921 was 10%, with a penalty of forfeiture of interest.

As such, we set 8% as the maximum legal rate in 1865, no maximum rate from 1866 until 1891 and 10% thereafter.

- Georgia. Holmes (1892) writes: "1759, eight per cent -penalty, loss of principal and interest and forfeiture of treble the amount of the principal; 1822, penalty, loss of interest; 1845, seven per cent - penalty, the same as before; 1857, banks taking more than seven per cent to forfeit treble the amount of the illegal interest and lose principal and interest; 1862, penalty, loss of illegal interest; 1871, ten per cent - penalty, the same as before; 1873, banks subject to the usury law; subsequently in 1873, any rate, subject to the National Currency Act; 1875, twelve per cent- penalty, loss of interest; 1879, eight per cent- penalty, the same as before; 1881, penalty, loss of illegal interest."

  From Westlaw, we see that usury laws were updated during our time period in Civil Code 1895, sections 2876 and 2886 and Civil Code 1910, sections 3426, 3436.

  - 1895: 8% is maximum legal rate, penalty is loss of illegal interest.
  - 1910: 8% is maximum legal rate, penalty is loss of illegal interest.

  Ryan (1924) finds that the maximum legal rate in 1921 was 8%, excess interest forfeit.

  As such, we set 7% to be the maximum legal rate prior to 1871, 10% between 1871 and 1873, no maximum between 1873 and 1875, 12% between 1875 and 1879, 8% from 1879 through the end of our sample.

- Idaho. Holmes (1892) writes: "1864, any rate, subject to the National Currency Act; 1871, twenty-four per cent- penalty, forfeiture of treble the amount of the illegal interest and fine not exceeding $100 or imprisonment not exceeding six months, or both; 1875, penalty, forfeiture of the illegal

interest received and fine and imprisonment as before; 1879, eighteen per cent -penalty, forfeiture of treble the amount of the illegal interest actually received and fine and imprisonment as before; 1887, penalty, forfeiture of ten per cent of the amount of the principal for each year."

From Westlaw, we see that usury laws were updated during our time period in Gen. Laws 1897, p. 95, section 1 and Gen. Laws 1899, p. 315, section 1.

1. 1897: Westlaw seems to have a slightly wrong citation. It is page 87. 12% is maximum legal rate. No change in penalty.
2. 1899: Westlaw also seems to have a slightly wrong citation here. It is page 425. 12% is maximum legal rate. No change in penalty.

Ryan (1924) finds the maximum legal rate to be 12%, penalty of 10% of principle to be paid to the state for school funding. Thus it seems that there was no substantial change in usury policy over this time period.

As such, we set no maximum rate prior to 1871, 24% from 1871 until 1879, 18% from 1879 until 1897, 12% from 1897 until the end of our sample.

- Illinois. Holmes (1892) writes: "1819, any rate, except that banks were limited to six per cent, with penalty of loss of principal and interest; 1833, twelve per cent -penalty, forfeiture of treble the amount of the interest; 1845, six per cent -penalty, the same as before, but, if usury was actually received, forfeiture of treble the amount of the illegal interest; 1849, ten per cent -penalty, the same as before; 1851, seven per cent for banks on secured loans; 1853, no corporation to interpose the defence of usury; 1857, ten per cent for banks; 1857, penalty, loss of interest; 1879, eight per cent -penalty, the same as before; 1891, seven per cent - penalty, the same as before."

  Westlaw indicates no changes made between 1891 and 1921 (but does note changes before and after), which indeed is consistent with the fact that Ryan (1924) finds that the maximum legal rate in 1921 was 7%, with a penalty of all interest forfeit. We conclude that the law was constant in this time period.

As such, we set the maximum legal rate to 10% until 1879, 8% between 1879 and 1891, and 7% thereafter.

- Indiana. Holmes (1892) writes: "1818, six per cent-penalty, loss of interest; 1831, any rate; 1833, ten per cent -penalty, forfeiture of double the amount of the illegal interest; 1842, six per cent - penalty, the same as before, Union County excepted until May 27, 1852 ; 1852, penalty, forfeiture of five times the amount of the illegal interest; 1861, penalty, loss of illegal interest; 1867, ten per cent- penalty, the same as before; 1879, eight per cent - penalty, loss of the excess over six per cent."

  Ryan (1924) finds that the maximum legal rate in 1921 was 8%, with a penalty of the excess over 6%, such that it seems that the law did not change in our time period of interest. We confirm this by looking at the code of 1897 and 1908.

  As such, we set the maximum legal rate to 6% prior to 1867, 10% between 1867 and 1879, and 8% thereafter.

- Iowa. Holmes (1892) writes: "1839, twenty per cent -penalty, loss of illegal interest and forfeiture of twenty-five per cent of the amount of the principal; 1843, ten per cent -penalty, forfeiture of the amount of the excess actually received above six per cent; 1851, any rate; 1853, ten per cent - penalty, loss of interest and forfeiture of ten per cent of the amount of the principal for each year; 1890, eight per cent -penalty, the same as before."

  Ryan (1924) finds that the maximum legal rate in 1921 was 8%, with a penalty of 10% of the principle donated to the school fund. Westlaw indicates only that the Code of 1897, section 3038, addressed usury laws in our time period, which confirms that the law did not change in our time period.

  As such, we set the maximum legal rate to 10% prior to 1890 and 8% thereafter.

- Kansas. Holmes (1892) writes: "1859, any rate; 1860, twenty per cent - penalty, loss of interest; 1863, twelve per cent- penalty, the same as before;

1872, penalty, loss of illegal interest; 1889, ten per cent - penalty, loss of illegal interest and forfeiture of the amount of the same."

Martin (1981) provides a historical overview of usury laws in Kansas. He finds that the 1889 maximum legal rate remained until 1980. Therefore, it is not surprising that Ryan (1924) finds that the maximum legal rate in 1921 was 10%. Penalty was double the sum in excess of the legal maximum, as in 1889.

As such, we set the maximum legal rate to be 12% prior to 1889 and 10% thereafter.

- Kentucky. Holmes (1892) writes: "1798, six per cent-penalty, loss of interest; 1819, penalty, loss of illegal interest; 1871, ten per cent -penalty, loss of interest; 1876, eight per cent - penalty, the same as before; 1878, six per cent - penalty, loss of illegal interest."

  Ryan (1924) finds that the maximum legal rate in 1921 was 6%, with a penalty of the loss of illegal interest. Westlaw does not cover our time period. However, none of our readings suggest that there were any changes in interest rates or penalties between 1878 and 1921, and the law was indeed the same in these two years.

  As such, we set the maximum legal rate to be 6% prior to 1871, 10% between 1871 and 1876, and 8% from 1876 onward.

- Louisiana. Holmes (1892) writes: "1805, banks limited to six per cent-no penalty; 1808, ten per cent - penalty, loss of interest; 1844, eight per cent - penalty, loss of interest; 1855, banks subject to the general usury law; 1856, penalty, loss of illegal interest; 1860, any rate on assignable contracts before maturity; 1870, penalty, loss of interest.

  Cazalas (1968) documents the history of usury laws in Louisiana, and states that the 1870 law was valid with the exception of an update in 1908. This update maintained the 8% maximum legal rate, however provided that *discounted* sums can be at an implicit interest rate that is larger.[21] While she

[21]That is, it is illegal to give a $100 loan for a year at 10% interest. However, it is legal to sell a bond with a face value of $100, redeemable in a year, for $90, implying a higher than 10% interest

argues that individual bank charters set the maximum discount rate, Ryan (1924) claims that discounting beyond 20% per year was illegal. It was a misdemeanor offense to lend at higher rates. The explicit difference between interest rates and discount rates does not make sense from an economic view, and indeed Adcock (1969) calls this statutory distinction "nonsensical." He argues that, in practice, 8% was not really enforced as it was so easily circumvented after this 1908 provision.

As such, we set 8% to be the maximum legal rate until 1908 and 20% thereafter.

- Maine. Holmes (1892) writes: "1821, six per cent - penalty, loss of principal and interest and forfeiture of the amount of the same; 1834, penalty, loss of illegal interest; 1870, any rate, subject to the National Currency Act."

  Ryan (1924) also finds no maximum legal rate in 1921. Indeed, as of writing this section in June 2018, there is no maximum legal rate. We find no evidence that there ever was a maximum legal rate in Maine.

  As such, we set 6% to be the maximum legal rate until 1870, and no maximum rate thereafter.

- Maryland. Holmes (1892) writes: "1692, six per cent for a loan of money, eight per cent for a loan of tobacco or other property-penalty, loss of principal and interest and forfeiture of treble the amount of the principal; 1860, six per cent - penalty, loss of illegal interest."

  Ryan (1924) also finds a 6% maximum legal rate, with a penalty of the loss of the illegal interest. Usurious interest cannot be recovered once paid. Smith (1967) surveys the history of usury laws in Maryland and suggests no meaningful change in our time period of interest.

  As such, we set 6% to be the maximum legal rate in our entire sample.

- Massachusetts: Holmes (1892) writes: "1641, eight per cent; 1693, six per cent -penalty, loss of principal and interest; 1826, penalty, loss of interest

rate.

- penalty for banks, forfeiture of treble the amount of the interest; subsequently in 1826, penalty, forfeiture of treble the amount of the interest; 1846, penalty, forfeiture of treble the amount of the illegal interest; 1867, any rate, subject to the National Currency Act; 1870, bonds issued by corporations limited to seven per cent - no penalty; 1884, notes, bonds and scrip issued by municipalities limited to six per cent - no penalty; 1886, bonds issued by gas companies limited to six per cent -no penalty; 1888, eighteen per cent on loans of less than $1000-no penalty.

  Ryan (1924) reports the same laws in 1921 that had been in effect in 1891. Our readings of Westlaw yield no indication that the law changed in the interim.

  As such, we set 6% to be the maximum rate until 1867, then no legal maximum thereafter.

- Michigan: Holmes (1892) writes: "1820, six per cent - penalty, loss of illegal interest and forfeiture of twenty-five per cent of the amount of the principal; 1830, seven per cent- penalty, the same as before; 1838, ten per cent – penalty, forfeiture of treble the amount of the illegal interest to debtor in case of suit on the contract brought by the creditor; 1843, penalty, loss of illegal interest; 1891, eight per cent – penalty, loss of interest."

  Herstein (1981) provides a history of usury laws in Michigan, and finds that the maximum legal rate was reduced to 7% in 1899, where it remained throughout our time period. This is consistent with Ryan (1924), who documents a maximum legal rate of 7% with a penalty of forfeiture of all interest in 1921.

  As such, we set 10% to be the maximum legal rate until 1891, then 8% until 1899, and then 7% thereafter.

- Minnesota: Holmes (1892) writes: "1851, any rate; 1858, fifteen per cent for banks on secured loans - penalty, fine of not less than $50 nor more than $500; 1860, twelve per cent- penalty, loss of illegal interest; 1866, twelve per cent for banks; 1877, penalty, if usury was actually received, forfeiture of the amount of the same and loss of principal and interest; 1879, ten per

cent -penalty, the same as before, but not applicable to building and loan associations."

Rolnick and Dahl (1975) reports that the maximum legal rate was 12%, then dropped to 10% in 1899 (including building and loan societies), where it remained until 1923. Ryan (1924) reports the same laws in 1921 that had been in effect in 1899, supporting Rolnick and Dahl (1975).

As such, we set the maximum legal rate to be 12% until 1899, then 10% thereafter.

- Mississippi. Holmes (1892) writes: "1805, six per cent - penalty, loss of interest; 1818, eight per cent, but no limit for a bonafide loan of money -no penalty; 1822, eight per cent, but ten per cent for a loan of money - penalty, loss of interest; 1842, six per cent, but eight per cent for a loan of money - penalty, the same as before; 1854, ten per cent for a loan of money - penalty, loss of the illegal interest; 1856, ten per cent on all contracts - penalty the same as before; 1873, any rate, except that no more than ten per cent could be collected from a minor nor from the estate of a deceased debtor for interest accrued since his death, and except that national banks came under the National Currency Act; 1875, ten per cent - penalty, loss of interest; 1886, no limit for building and loan associations and law of 1875 applied to banks."

  Rhoden (1981) reports that the maximum legal rate was amended in 1906, but effective in 1913, to be 8%. This is consistent with Ryan (1924), who reports a 8% maximum legal rate in 1921. Excess interest paid may be recovered. Local building and loan associations dealing with their own members are exempt.

  As such, we set the maximum legal rate to be 10% until 1873, no maximum until 1875, 10% again until 1913, and 8% thereafter.

- Missouri. Holmes (1892) writes: "1813, ten per cent - penalty, loss of interest; 1847, six per cent -penalty, interest at agreed rate forfeited; 1856, ten per cent -penalty, the same as before; 1887, no limit for building and loan associations; 1891, eight per cent - penalty the same as before."

Ryan (1924) reports the same laws as in 1891. Gisler (1951) confirms that the law was unchanged in the interim.

As such, we set 10% to be the maximum rate until 1891 and 8% thereafter.

- Montana. Holmes (1892) writes: "1865, any rate, subject to the National Currency Act."

  Ryan (1924) reports a 10% maximum rate in 1921. Morton and Barber (1978) claims that this rate was set in 1919.

  As such, we set no legal maximum until 1919, and 10% thereafter.

- Nebraska. Holmes (1892) writes: "1855, any rate; 1861, fifteen per cent- penalty, loss of interest; 1867, twelve per cent- penalty, the same as before; 1879, ten per cent - penalty, the same as before."

  Ryan (1924) the same law in 1921 as in Holmes. Westlaw indicates that the Nebraska usury law was not updated between 1879 and 1933. See the citations in Nebraska Revised Statutes 45-104.

  As such, we set 15% to be the maximum legal rate until 1867 and 12% thereafter.

- Nevada. Holmes (1892) writes: "1861, any rate; 1864, subject to the National Currency Act."

  Ryan (1924) finds no maximum legal rate of interest in 1921. Nevada still does not have any maximum legal rate of interest.

  As such, we set no legal maximum for Nevada.

- New Hampshire. Holmes (1892) writes: "1791, six per cent - penalty, forfeiture of treble the amount of the illegal interest; 1872, penalty, forfeiture of treble the amount of the illegal interest actually received."

  Ryan (1924) reports that this usury law was repealed in 1921.

  As such, we set 6% to be the maximum legal rate throughout our sample.

- New Jersey. Holmes (1892) writes: "1738, seven per cent - penalty, loss of principal and interest; 1824, six per cent - penalty, the same as before; 1846,

six per cent, except in several towns, cities and counties, after certain dates -penalty, the same as before; 1864, penalty, loss of interest; 1866, seven per cent throughout the state - penalty, the same as before; 1874, usury law not applicable to bonds and mortgages of corporations; 1875, penalty in Monmouth County, loss of principal and interest; 1878, six per cent throughout the state - penalty, loss of interest."

Ryan (1924) reports a 6% maximum legal rate with a penalty of loss of interest. Westlaw indicates that the law was not updated between 1878 and 1953.

As such, we set 6% to be the maximum until 1866, then 7% until 1878, and 6% thereafter.

- New Mexico. Holmes (1892) writes: "1852, any rate; 1864, subject to National Currency Act; 1882, twelve per cent -no penalty; 1884, penalty, forfeiture of double the amount of the illegal interest actually received and fine of not less than $25 nor more than $100."

  Ryan (1924) reports a maximum legal rate of 12% in 1921. Our readings find no changes in New Mexico's law in the interim time period.

  As such, we set no maximum until 1882, and 12% thereafter.

- New York. Holmes (1892) writes: "1717, six per cent; 1718, eight per cent; 1737, seven per cent; 1787, penalty, loss of principal and interest; 1830, penalty not applicable to indorsee of negotiable paper without notice of usury; 1837, law as to indorsee repealed and penalty made a fine not exceeding $1000 or imprisonment not exceeding six months, or both, in addition to loss of principal and interest; 1850, no corporation to interpose the defence of usury; 1880, six per cent- penalty, the same as before; 1882, penalty for banks, loss of interest and, if usury is actually received, forfeiture of twice the amount of the same; 1882, any rate for demand loans of $5000 or more on collateral security, but subject to the National Currency Act."

  Ryan (1924) reports rules very similar to the 1882 law summarized by Holmes. Our reading of Fleming (2012) implies that the law did not change

between 1891 and 1920.

As such, we set 7% to be the maximum rate until 1880, and 6% thereafter.

- North Carolina. Holmes (1892) writes: "1741, six per cent -penalty, loss of principal and interest and double the amount of the principal forfeited; 1843, usury law not applicable to indorsee of assignable paper; 1866, eight per cent for a loan of money, six per cent on other loans - penalty, loss of interest; 1875, eight per cent in all cases - penalty, loss of principal and interest, forfeiture of double the amount of the principal and fine of not less than $100 nor more than $1000; 1877, penalty, loss of interest and recovery of twice the amount of the illegal interest actually paid."

  Ryan (1924) reports a 6% maximum legal rate of interest, with a loss of all interest for violation and double the amount returned if interest paid. This makes it clear that the law changed in our time period.

  Moore (1969) provides an overview of North Carolina's usury laws. He reports that N.C. General Statutes 24-2 (1964), which was current at the time of that paper, was based on the 1877 act reported by Holmes (1892). This act indeed cites the 1877 act, and only one update in our time period: Code of 1895, chapter 69, which indicates that the law changed in that year.

  As such, we set 6% to be the maximum legal rate until 1875, 8% until 1895, and 6% thereafter.

- North Dakota. Holmes (1892) writes: "1865, any rate, subject to the National Currency Act; 1866, twenty-four per cent -penalty, loss of principal and interest; 1875, twelve per cent -penalty, loss of interest; 1877, penalty, that of a misdemeanor (and loss of interest, as before) ; 1881, any rate in certain counties, subject to the National Currency Act; 1887, violation not a misdemeanor; 1887, exception in favor of certain counties repealed; 1889, penalty, that of a misdemeanor (and loss of interest, as before); 1890, penalty, loss of principal and interest, but not applicable to building and loan associations, nor to indorsee of negotiable paper without notice of usury."

  Ryan (1924) reports a 10% maximum legal rate, implying changes over time.

Westlaw reports 3 updates in our time period:

1. S.L. 1893, ch. 131, sections 2–3 set the maximum legal rate to 12%, with a penalty of loss of all interest.
2. S.L. 1915, ch. 176, 6073 lowered the maximum legal rate to 10%, maintained the penalty.
3. S.L. 1919, ch. 166 did not affect the maximum legal rate or penalty.

As such, we set no maximum rate until 1866, then 24% until 1875, then 12% until 1915, and then 10% from 1915.

- Ohio. Holmes (1892) writes: "1799, six per cent - penalty, loss of interest; 1804, penalty, forfeiture of the amount of the principal and interest; 1824, penalty, loss of illegal interest; 1850, ten per cent, six per cent for banks unless a higher rate permitted by charter penalty, loss of principal and interest; 1859, six per cent-penalty, loss of illegal interest; 1869, eight per cent, but national and state banks still limited to six per cent -penalty, the same as before."

  Ryan (1924) finds a maximum legal rate of 8% with a penalty of the forfeiture of interest over 6%.

  Yurchuck and Ball (1979) argues that the 1869 law was held continuously through at least 1979.

  As such, we set 6% until 1869 and 8% thereafter.

- Oklahoma. Holmes (1892) writes: "Session of legislature ending December 24, 1890, twelve per cent, but no limit for building and loan associations - penalty, loss of interest."

  Ryan (1924) finds a maximum legal rate of 10%, with a penalty of loss of all interest, yielding the question of when the law changed from 12% to 10%. The Compiled Laws of Oklahoma, 1909, Section 1156 (page 410) reports a maximum legal rate of interest of 12% with a penalty loss of interest, and cite the 1890 law. The Compiled Statutes of Oklahoma, 1921, Section 5097 (chapter 52, page 1972), report a 10% maximum legal rate and cite 1910 as the year the law changed.

As such, we use no legal maximum until 1890, then 12% until 1910, and 10% thereafter.

- Oregon. Holmes (1892) writes: "1854, any rate; 1863, twelve per cent - penalty, loss of interest and forfeiture of the amount of the principal; 1880, ten per cent - penalty, the same as before; 1885, the tax on the loan may be paid by the borrower, if the rate of interest is not higher than eight per cent."

  Ryan (1924) finds a 10% maximum legal rate, such that the law seems to have remained constant.

  While we were not able to find any secondary sources discussing the law in the interim, we were able to locate the 1910 version of the law, which was identical to the law reported in Ryan (1924), which in turn cites only 1898 as having an update in our time period. The 1898 law also stipulates a maximum legal rate of 10%, thus confirming that laws remained constant in our time period.

  As such, we set 12% until 1880, and 10% thereafter.

- Pennsylvania. Holmes (1892) writes: "Before 1700, date unknown, eight per cent; 1700, six per cent - penalty, the amount of the principal forfeited; 1705, eight per cent -penalty, the same as before; 1723, six per cent -penalty, the same as before; 1842, no limit for debts of railroad and canal corporations; 1850, banks limited to one-half of one per cent for thirty days-penalty on officer violating, fine of not more than $1000 and imprisonment not exceeding three years; 1857, seven per cent for agents and commission merchants of persons not living in the state, on balance retained and advancements; 1858, penalty, loss of illegal interest; 1865, the tax on the loan may be paid by the borrower; 1878, state banks limited to six per cent; 1887, repeal of the law permitting the borrower to pay the tax on the loan."

  Schwalm (1979) argues that the general usury rate of 6% was constant after 1858 (until 1974). While this law "applies to all lenders and borrowers and to all kinds of loans, many exceptions have developed" (p. 243). While it is beyond the scope of this paper to get into exactly the differences between

different types of loans and every exception, it is clear that 6% roughly applied. The interested reader should read Schwalm (1979) for more details. Ryan (1924) confirms these laws.

As such, we use 6% in our entire sample.

- Rhode Island. Holmes (1892) writes: "1767, six per cent-penalty, loss of interest and forfeiture of one-third of the amount of the principal and all the interest; 1822, penalty, loss of interest; 1844, penalty for banks, fine of $500; 1865, any rate, subject to the National Currency Act."

  Ryan (1924) finds basically no legal ceiling- depending on circumstance, the ceiling is 30%, 60%, or nonexistent.

  The current law, Chapter 6-26 Section 2 of Title 6 cites two updates in our time period: P.L. 1909, ch. 434 (which in turn cites General Laws of 1896, ch. 166.) and P.L. 1912, ch. 838.

  - The 1896 law affirms the legal rate of interest to be 6%, but does not set a maximum rate.
  - The 1909 law affirms the legal rate of interest to be 6%, but does not set a maximum rate.
  - The 1912 law is clearly the law cited by Ryan (1924).

  As such, we set no maximum rate.

- South Carolina. Holmes (1892) writes: "1691, ten per cent; 1719, penalty, loss of principal and interest and forfeiture of treble the amount of the principal; 1748, eight per cent - penalty, the same as before; 1777, seven per cent - penalty, the same as before; 1830, penalty, loss of interest; 1866, any rate, subject to the National Currency Act; 1877, seven per cent - penalty, loss of interest; 1882, ten per cent - penalty, loss of interest and forfeiture of double the amount of the illegal interest actually received; 1890, eight per cent - penalty, the same as before."

  Ryan (1924) finds the same rules in place: 8% maximum legal rate, penalty double the interest paid.

Indeed, this law is confirmed by the Code of Laws of South Carolina 1902, Sections 1662-1663, p. 645, which cites the 1891 law mentioned by Holmes. Additionally, the Code of Laws of South Carolina, 1922 (p.p. 1094-1097) reaffirm that these laws were on the books, subject to minor adjustments irrelevant to our purposes. We conclude that the laws were constant over our time frame.

As such, we set no maximum until 1877, then 7% until 1882, then 10% until 1890, 8% thereafter.

- South Dakota. Holmes (1892) writes: "The same as North Dakota previous to the law of 1890."

  Ryan (1924) finds a maximum legal rate of 12% in 1921, which indeed was the law in 1891. Indeed, the 1919 code cites 1887 and 1889 as the dates– as in Holme's discussion of North Dakota– as the source of the laws. No intermittent laws are cited. We conclude that the laws were constant over this time period.

  As such, we set no maximum rate until 1866, then 24% until 1875, then 12% thereafter.

- Tennessee. Holmes (1892) writes: "1741, six per cent - penalty, loss of principal and interest and forfeiture of double the amount of the principal; 1819, penalty, loss of illegal interest and fine; 1858, penalty, loss of illegal interest and fine of not less than $10 nor more than the amount of the illegal interest; 1870, ten per cent -penalty, loss of interest above six per cent and fine of not less than $100; 1877, six per cent - penalty, loss of illegal interest and fine of not less than $10 nor more than the amount of the illegal interest."

  Ryan (1924) reports a maximum legal rate of 6%, with a penalty of the excess interest rate lost. The 1896 Annotated Code of Tennessee, page 798 confirms that the update in 1877 was still in force, as does Thompson's Shannon's code of Tennessee 1918 (p. 1402). We conclude that the law was constant in our time period.

  As such, we set 6% until 1870, then 10% until 1877, and 6% thereafter.

- Texas. Holmes (1892) writes: "1840, twelve per cent - penalty, loss of interest; 1870 (constitution), any rate, subject to the National Currency Act; 1876 (constitution), twelve per cent - penalty (act of legislature), loss of interest; 1891 (constitution), ten per cent-penalty to be provided by next legislature."

  Ryan (1924) reports a maximum legal rate of 10%, with a penalty of all interest void, and double the usurious interest paid must be returned. Pearce and Williams (1968) makes it clear that the 1891 law remained in effect at least until the 1960s with only minor adjustments to its scope. Thus, we conclude that the law was constant in Texas in our time frame.

  As such, we use 12% until 1870, no maximum until 1876, then 12% until 1891, then 10% thereafter.

- Utah. Holmes (1892) writes: "1868, any rate, subject to the National Currency Act."

  Ryan (1924) finds a maximum legal rate of interest of 12%. Principle and interest paid on a usurious contract may be recovered. Ryan cites the 1909 law that makes usury a misdemeanor.

  - The compiled laws of the state of Utah, 1917, pages 708-709, report the same rules as in Ryan, and appear to cite 1907 laws.
  - The compiled laws of the State of Utah, 1907, page 534 presents the same law as in 1917, and explicitly states that, prior to its adoption "an agreement for any rate of interest was lawful in Utah."

  We thus set no maximum rate until 1907, and 12% thereafter.

- Vermont. Holmes (1892) writes: "1787, six per cent -penalty, forfeiture of the amount of the principal; 1797, penalty, loss of illegal interest and forfeiture of twenty-five per cent of the amount of the principal; 1823, loss of illegal interest."

  Ryan (1924) also reports a maximum legal rate of 6% with loss of illegal interest as a penalty. The general laws of Vermont 1917, page 519, also cite these maximum rates of interest and penalties. This law does not reference any laws after 1866, implying that the law was constant in our time period.

We thus set 6% to be the maximum legal rate.

- Virginia. Holmes (1892) writes: "1730, six per cent -penalty, loss of principal and interest and forfeiture of twice the amount of the principal; 1734, five per cent -penalty, the same as before; 1797,six per cent -penalty, the same as before; 1870 (constitution), twelve per cent - penalty (act of legislature), the same as before; 1872, limitation of twelve per cent by constitution annulled; 1873, corporations not to interpose defence of usury; 1873, eight per cent -penalty, loss of interest above six per cent; 1874, six per cent -penalty, loss of interest."

  Ryan (1924) also reports a maximum legal rate of 6% with loss of all interest as a penalty. Edmonds (1975) confirms that the laws remained constant in our time period, and even describes the 6% as having become "sacrosanct" (p. 79).

  We thus set 6% until 1870, then 12% until 1872, then no limit until 1873, then 8% until 1874, then 6% thereafter.

- Washington. Holmes (1892) writes: "1854, any rate; 1864, subject to the National Currency Act."

  Ryan (1924) reports a maximum legal rate of 12%, with a penalty of forfeiture of accrued interest or forfeiture of twice the paid interest.

  The current law cites updates to the usury laws during our time period in 1893, 1895, and 1899.

  1. Session Laws of 1893 (p. 29) explicit allow any contracted rate of interest.
  2. Session Laws of 1895 (p. 349) set a maximum legal rate of 12%, with a penalty of forfeiture of accrued interest or forfeiture of twice the paid interest.
  3. Session Laws of 1899 (p. 128) make minor modifications to the 1895 law that are of no interest to this paper.

  We thus set no maximum rate until 1895, and then 12% thereafter.

- West Virginia. Holmes (1892) writes: "1868, six per cent -penalty, loss of illegal interest, but corporations not to interpose defence of usury."

  Ryan (1924) reports the same usury rules.

  Westlaw cites only one law in our time period: Acts 1917, c.55 Section 4, which states explicitly that the interest rates "shall continue to be at a the rate of six dollars upon one hundred dollars for a year ...." We conclude that the law was constant in our missing time period.

  We thus set 6% as the maximum rate during the entire sample.

- Wisconsin. Holmes (1892) writes: "1839, twelve per cent, but seven per cent for banks, unless otherwise provided by charter -penalty, forfeiture of treble the amount of the illegal interest; 1849, any rate; 1851, twelve per cent -penalty, loss of principal and interest and forfeiture of treble the amount of the illegal interest received; 1852, ten per cent for banks until 1860 and seven per cent thereafter; 1856, penalty, the same as before if usurious interest was paid, but if usurious interest was reserved in a contract, the penalty was the loss of interest and forfeiture of treble the amount of the illegal interest; 1859, penalty, loss of interest and forfeiture of treble the amount of the illegal interest; 1860, ten per cent -penalty, the same as before; 1863, seven per cent- penalty, the same as before; 1866, ten per cent -penalty, the same as before; 1871, penalty, loss of interest and, if usury had been received, forfeiture of treble the amount of the illegal interest; 1876, usury law not applicable to building and loan associations."

  Ryan (1924) reports a 10% maximum legal rate of interest. Penalty for violation is forfeiture of all interest, with a right of recovery of treble the usurious interest paid.

  Friedman (1963) gives a detailed history of Wisconsin's usury laws, and documents minor changes in penalties during our time period. He writes that in 1895 "[v]iolation was punishable by fine of 'not less than five nor more than fifty dollars" (p. 561). Then, in 1905, this was updated to "'not less than twenty-five nor more than three hundred dollars,' or 'imprisonment not more than six months,' or both" (p. 562). It is not clear how well

these were enforced. For our purposes, the law was constant in our time period.

We thus set 7% until 1866 and 10% thereafter.

- Wyoming. Holmes (1892) writes: "1869, any rate, subject to the National Currency Act."

  Ryan (1924) finds a maximum legal rate of 12%, with a penalty loss of interest.

  Westlaw only reports one change in our time period, namely 1895.

  - Session Laws of Wyoming, 1895, chapter 30 sets a maximum legal rate of 12% (section 2) with a penalty of loss of interest (section 5).
  - Revised Statutes of Wyoming, Wyoming Compiled Statutes, 1910 (chapter 211) as well as Wyoming Compiled Statutes, 1920 (chapter 251) all affirm the 1895 law.

  We conclude that the law was constant prior to 1895 and again between 1895 and 1920.

  We thus set no maximum until 1895, and then 12% thereafter.

Benmelech and Moskowitz (2010) reports a few methods of coding a lack of legal limit, and claims them to be all similar. We use their approach of setting 25% for transparency. We control for inflation as we do for interest rates in Section 5.2 of the main paper.

F Border Analysis, Details

Figure H.2 shows the a map displaying the state border pairs for the portfolio regression between 1860 and 1870 (Section 5.1 of the main paper), and Figures H.4–H.11 present maps displaying the state border pairs for the labor allocation regressions between 1850 and 1920 (Section 5.3 of the main paper).

We now describe the construction of these data sets. The data on the evolution of US historical county- and state-level boundaries comes from the Integrated Public Use Microdata Series (IPUMS) National Historical Geographic Information

System (NHGIS), available at http://www.nhgis.com. Although there are other projects featuring US historical boundaries and spatial data within a Geographic Information Systems (GIS) framework, we use the NHGIS border definitions as they provide a better fit for mapping US federal census data from IPUMS. We start by obtaining eight geometry file maps corresponding to the 1850–1920 census year boundaries. On a technical level, shapefiles consist of polygon geometries, each of which is defined by a list of vertices with two-dimensional coordinates. We use QGIS as our primary tool for handling the shapefiles. In order to identify the best topologically continuous set of bordering counties (i.e., counties adjacent to the state borders) over the entire 1850–1920 period, we develop the following three-step procedure:

1. We make use of polygons' topology and write a simple Python script that, for every polygon in the shapefile, identifies all of its immediate neighbors. A polygon is considered a neighbor of another polygon if they touch or intersect. The script records the unique county (*GISJOIN2* variable) and state identifiers of all neighbors. We eliminate counties that are only adjacent to counties from the same state/territory in order to arrive at a sample of state borders. We manually examine the resulting samples and eliminate polygons that correspond to the administrative units that have not been partitioned into counties, such as large territories without political subdivisions.

2. For every polygon $p_{i,t}$ from the resulting samples, we extract the coordinates of its bounding box and collect them into a set

$$\mathcal{C}_{i,t} \triangleq \{(x_{i,n,t}, y_{i,n,t}) : x_{i,n,t} \in X_{i,t},\, y_{i,n,t} \in Y_{i,t},\, \forall n \in N_{i,t}\},$$

   where $N_{i,t}$ is the number of points bounding the polygon $p_{i,t}$. Note that $N_{i,t}$ equals the cardinality of $\mathcal{C}_{i,t}$, $\#\mathcal{C}_{i,t} = N_{i,t}$. In practice, the above set is implemented as a list of two ordered lists. Since our sample spans the years from 1850 to 1920, we endeavor to ensure topological continuity over the entire period while using the 1920 county boundaries whenever possible. Accordingly, we first try to replicate the 1850 sample of bordering counties

with those from subsequent years. Specifically, we add polygon $p_{j,t}$ to the sample of bordering counties in year $t \in \{1860, ..., 1920\}$ if and only if

$$\frac{\sum_{n=1}^{N_{j,t}} \mathbb{I}_{\{\exists i:\, (x_{j,n,t}, y_{j,n,t}) \in \mathcal{C}_{i,1850}\}}}{\#\mathcal{C}_{j,t}} \geq 0.95.$$

In other words, we add polygon $p_{j,t}$ to the sample of bordering counties in that year if and only if 95% (or more) of points bounding this polygon coincide with points that bound some (possibly more than one) polygons from the 1850 sample of bordering counties. While this rule works reasonably well in case of the Eastern states, the majority of the Western states were partitioned into modern-looking counties only by 1900 (except for Montana and Arizona, both of which experienced significant within-state partitions between 1900 and 1910). We therefore repeat the same algorithm to replicate the 1900 boundaries with polygons from subsequent and preceding years.

3. Step 2 allows for fairly conservative replication of the 1850 and 1900 county boundaries, yet some of the polygons were filtered out– especially when little change in the total area of the polygon came with numerous but insignificant changes of the bounding box. We therefore allow for more liberal replication of the 1920 county borders by looking at the overlaps of the 1920 polygons with those from preceding years. Specifically, we add polygon $p_{j,t}$ to the sample of bordering counties in year $t \in \{1850, ..., 1910\}$ if and only if 80% or more of its total area is covered by the 1920 bordering polygons (possibly more than one).

We end up with the eight sets of bordering counties, one for each census year covered by our 1850–1920 sample.

G Extra Robustness and Randomization Exercises

There are several exercises mentioned in the main paper and deferred to this appendix because of space limitations.

G.1 Portfolio Regressions: Robustness

As noted in the paper, we are limited in the number of state-level controls we can use by the number of state-year observations we have. In this section, we perform a robustness analysis on the choice of state-level controls used.

The controls used in the paper, referred to here as our "main" controls. The first control is relative TFP between the non-agricultural sector and agricultural sector, which captures technological forces for industrialization, and thus may impact both the desire to grant women rights and, through firms' demand for loans, household portfolios. The second control is urbanization rates capture the market for, and the level of, human capital (Geddes and Lueck 2002). We note that urbanization rates are also a proxy for access to capital markets. The third control is the fraction of votes in the most recent gubernatorial election for the Democratic candidate captures the political environment, and the level of special interest control (Geddes and Lueck 2002). It has been argued in both the economic and historical literature that one reason states granted women rights was to attract women to regions with a large gender imbalance (Geddes and Lueck 2002). We therefore include the fraction of the population that is female as our fourth control.

We now explore a second set of potential state-level controls, which we refer to as our "robustness" controls. The first control is wealth per capita, which may be associated with the desire for women's rights (Geddes and Lueck 2002). The second control is the existence of a suffrage group, which captures a measure of feminism in a state at a given time. The third measure is the fraction of females in school, as in Geddes and Lueck (2002), who argue that this captures women's human capital and thus incentive to given them rights over their labor income. The fourth control deals with the nationality/country of origin people in the state. The idea is to capture people's attitudes towards common law. To address this, we calculated the fraction of a state's population that was born outside of the US, Canada, the UK, and Ireland. These countries were the predominant common-law countries at the time. Thus, this measure calculates the fraction of a state's population that was born outside of the common law, and therefore might have different views on the matter of women's property rights.

When doing our main exercise, rather than the border exercise, we actually have enough degrees of freedom to include both the main controls and robustness controls. Table H.5 replicates Table 4 of the main paper using both the main controls and the robustness controls. As can be seen, the results in Table H.5 are, if anything, stronger than those of the main paper.

We do not have enough degrees of freedom to include both sets of controls simultaneously when doing the border analysis. Table H.6 repeats Table 5 of the main paper, but switches the main state level controls with the robustness controls described above. The magnitudes of the estimates are somewhat smaller than with our main set of controls, but still statistically and economically significant.

Our selection of "main" controls is explained in Section B of this Online Appendix. However, any deviation from this main set of controls to our "robustness" controls is somewhat arbitrary. Given that there are 8 controls in total, and we use 4 for each set, there are 70 possible combinations. We do not explore all 70. However, we do explore some deviations from our two benchmark sets of controls.

Table H.7 takes our main controls and tests deviations. Panel A reports results akin to Column 3 of Table 5 of the main paper, where the dependent variable is the fraction of a household's assets in moveable property. Panels B and C do the same for the extensive margin of moveable asset holdings an real asset holdings, respectively. Column 1 uses set "A" of state controls, which switches relative TFP with the fraction of male workers in the non-agricultural sector, as a different measure of industrialization. Column 2 uses set "B" of state controls, which switches the fraction of votes in the most recent gubernatorial election that went to the Democratic candidate with the fraction of the population born in common law countries as an alternative measure of the political situation in the state. Column 3 uses set "C" of state controls, which switches relative TFP with wealth per capita, as an alternative measure of economic development in a state. Column 4 uses set "D" of state controls, which switches the fraction of a state's population that are women with the fraction of women in school, as an alternative potential measure of women's importance in a state.

Table H.8 follows the same pattern as Table H.7, but tests deviations from our

robustness controls. Column 1 uses set "E" of state controls, which switches the presence of a women's suffrage organization with the fraction of a state's population that is female as an alternative measure of feminism in a state. Column 2 uses set "F" of state controls, which switches the fraction of women in school with the fraction of men in school, as an alternative control of human capital in a state. Column 3 uses set "G" of state controls, which switches the presence of a women's suffrage group with the fraction of votes in the most recent gubernatorial election that went to the Democratic candidate as an alternative measure of political conditions in a state. Column 4 uses set "H' of state controls, which switches the fraction of the population born in common law countries with the of votes in the most recent gubernatorial election that went to the Democratic candidate as an alternative measure of the political situation in the state.

While some estimates in Tables H.7 and H.8 lose their significance, all show robustness in the direction and order of magnitude of the effect of women's rights on household portfolios.

G.2 Credit Regressions: Robustness

We next turn to the robustness analysis on the results shown in Section 5.2 of the main paper. Table H.9 performs robustness analyses on Table 6 from the main paper. Column 1 takes the specification from Table 6, Column 3 in the main paper and repeats the analysis without states that had community property laws ("Non CP"). Column 2 also takes the specification from Table 6, Column 3, but instead drops states that gave rights after 1920 from the analysis. This is done in case those particular states had *de facto* given women rights, even if they had not done so *de jure*. Columns 3 and 4 repeat Columns 1 and 2, with the dependent variable being deposits, while Columns 5 and 6 do so with the dependent variable being loans. With the exception of Column 1, all of the results are both quantitatively similar to those found in Table 6 of the main paper, and statistically significant. The point estimate in Column 1 of -0.568 is actually stronger than the associated estimate in Column 3 of Table 6, but it is not statistically significant as the standard error is somewhat higher. We conclude that the main results of the credit market regressions are robust to these tests.

Next, we include a repeat of the randomization test described in Section 5.2 of the main paper. Accordingly, we repeat 50,000 times the regression specifications from Columns 3, 6, and 9 of Table 6 in the main paper. During each iteration we randomly assign a date that a state gave women economic rights, drawn uniformly between 1850 and 1920. Figure H.12 shows the histograms for the estimates of α from Equation (3), along with our estimate (reported in the main paper) for the regression using the actual dates that states gave rights. The vertical line labeled "p-value" shows the fraction of cases in which the regressions with random dates yielded larger (in absolute terms) coefficients on α, for our exercises with interest rates, deposits, and loans, than the regression with the actual dates yielded. Running our regressions on random dates yields estimates centered at zero, indicating that the model in Equation (3) of the main paper is unlikely to produce biased results.

G.3 Labor Allocation Regressions: Robustness

Figure H.13 shows graphically the results for Column 6 of Table 7 of the main paper. Before rights are granted, there is no trend in industrialization. That is, given state and year (or region-year) fixed effects, as well as other controls, industrialization did not deviate from what would have been expected. Once rights are given, there is a statistically significant increase in the fraction of the labor force working in the non-agricultural sector. The relationship is dynamic, increasing with respect to the amount of time since rights were granted, with an estimated total increase of about 5–7 percentage points by two decades after rights were given. This shows clearly that granting rights is associated with an increase in non-agricultural employment.

Table H.10 shows the results of five robustness exercises, performed using the specification from Column 6 in Table 7 in the main paper. Column 1 uses an alternative definition of the non-agricultural labor variable, as explained in Section 5.3 of the main paper. Column 2 drops all observations from 1890, as the data for that year was imputed.[22] Column 3 drops all states that gave rights between 1870 and 1880 from the analysis, as explained above. As this particular exercise

[22] A fire destroyed census records from 1890.

eliminates approximately a third of our data, we use year fixed effects, rather than region-year fixed effects, as to reduce the number of estimated parameters. Column 4 returns to region-year fixed effects, and drops states that use community property. Column 5 drops states that gave rights after 1920. As can be seen, these exercises show that the results are robust to these checks both qualitatively and quantitatively.

Table H.11 repeats Table H.10 with state-border pairs fixed effects. Columns 1, 2, 4, and 5 find no pre-rights trend in labor allocations, and a quantitatively large and statistically significant dynamic reallocation of labor after rights are granted. 20 years after rights, 4.8–6.1 percentage points of a state's labor force is reallocated towards non-agricultural employment. Column 3 also shows no pre-rights trend in labor allocations towards non-agriculture (if anything, labor shifts towards agriculture prior to rights). Upon granting women rights, there is a large increase in male non-agricultural employment that loses statistical significance after a decade. We conclude that our results from Table 8 of the main paper are robust to the various checks performed here, further supporting the idea that geographic variation in economic conditions is not the main driving force for our results.

We next turn to the randomization exercise described in Section 5.3 of the main paper. We take the regression specification from Column 6 in Table 7 in the main paper, and repeat it 50,000 times, as before. During each iteration, we randomly assign a date for each state, drawn uniformly between 1850 and 1920, and proceed as if that were the date when women were granted rights in that state. Running our regressions on random dates yields estimates centered at zero, indicating that the model in Equation (4) of the main paper is unlikely to produce biased results. The p-value on the figure suggests that our results were extremely unlikely to be a random occurrence. Figure H.14 shows the histograms for the estimates of α_k along with our estimate (reported in the main paper) for the regression using the actual dates that states gave rights. The vertical line labeled "p-value" shows the fraction of cases in which the regressions with random dates yielded higher coefficients on α_k for $k \in \{0, 10, 20, 30+\}$ than the regression with the actual dates yielded. Running our regressions on random dates yields es-

timates centered at zero, indicating that the model in Equation (4) of the main paper is unlikely to produce biased results. The p-value on the figure suggests that our results were extremely unlikely to be a random occurrence.

We finally turn to the randomization exercise of the border analysis described in Section 5.3 of the main paper. We take the regression specification from Column 6 in Table 8 in the main paper, and repeat it 50,000 times, as before. During each iteration, we randomly assign a date for each state, drawn uniformly between 1850 and 1920, and proceed as if that were the date when women were granted rights in that state. Running our regressions on random dates yields estimates centered at zero, indicating that the model is unlikely to produce biased results. The p-value on the figure suggests that our results were extremely unlikely to be a random occurrence. Figure H.15 shows the histograms for the estimates of α_k along with our estimate (reported in the main paper) for the regression using the actual dates that states gave rights. The vertical line labeled "p-value" shows the fraction of cases in which the regressions with random dates yielded higher coefficients on α_k for $k \in \{0, 10, 20, 30+\}$ than the regression with the actual dates yielded. Running our regressions on random dates yields estimates centered at zero, indicating that the model in the main paper is unlikely to produce biased results. The p-value on the figure suggests that our results were extremely unlikely to be a random occurrence upon the granting of rights, and a decade after. The p-value is 0.0614 two decades after rights, and there is no significance to the results thereafter.

G.4 Capital Intensity Regressions: Extra

Table H.12 repeats the robustness exercises on Table 9 of the main paper. We take the benchmark specification, Column 3, from Table 9 of the main paper. In Column 1 of Table H.12, we drop all observations from 1890. In Column 2, we drop all states that gave rights between 1870 and 1880. As before, for this specification we use year fixed effects, rather than region-year fixed effects, so as to reduce the number of estimated parameters given the loss of approximately a third of our data. Column 3 drops community property states. Column 4 drops states that gave rights after 1920. In all specifications, there is no significant trend

prior to rights being granted, but there is dynamic and statistically significant growth after rights are granted.

Finally, we turn to the randomization exercise described in Section 5.4 of the main paper. Figures H.16 and H.17 show the histograms for the estimates of α_k along with our estimate (reported above) for the regression using the actual dates that states gave rights, when using Columns 4 and 5, respectively, from Table 9 of the main paper. The vertical line labeled "p-value" shows the fraction of cases in which the regressions with random dates yielded larger coefficients on α_k for $k \in \{0, 10, 20, 30+\}$ than the regression with the actual dates yielded. Running our regressions on random dates yields estimates centered at zero, indicating that the model in Equation (5) of the main paper is unlikely to produce biased results. Figure H.16 shows it to be extremely unlikely that our estimates of the growth of the most capital intensive industries were random. Figure H.17 shows that it is likely that the least capital intensive industries grew as a result of rights, though less so than the high capital intensive industries, confirming our results described above.

H Extra Figures: Interest Rate Dispersion in American Credit Markets

As discussed in Section 4 of the main paper, Breckenridge (1898) documents regional dispersion in interest rates of first class double-name commercial paper in the 1890s. This is high quality corporate paper. Breckenridge argues that the comparison across cities of first class double-name commercial paper takes into account default risk, and thus compares discount rates across the US. We present a snapshot of his findings in Figure H.18. This figure shows that interest rates varied from about 4% in Boston to more than 9% in Denver. Similarly, using the interest rates described in Section 3 of the main paper, Figure H.19 displays the evolution of interest rates over time by region. The figure shows two salient features of the data. First, there is significant cross-regional variation in interest rates, supporting our treatment of states as having imperfectly integrated capital markets. Secondly, there is a clear differentiation in the time trend across regions.

References

Adcock, Herschel C., "Louisiana Loan Laws," *Louisiana Law Review*, 1969, *29* (3), 562–570.

Amonette, Clarence O., "Usury Laws Affecting National Banks," *Virginia Law Review*, 1916, *3* (5), 331–348.

Basch, Norma, *In the Eyes of the Law: Women, Marriage, and Property in Nineteenth-Century New York*, Cornell University Press, 1982.

Benmelech, Efraim and Tobias J. Moskowitz, "The Political Economy of Financial Regulation: Evidence from U.S. State Usury Laws in the 19th Century," *The Journal of Finance*, 2010, *65* (3), 1029–1073.

Breckenridge, R.M., "Discount Rates in the United States," *Political Science Quarterly*, 1898, *13* (1), 119–142.

Butler, Sara M., "Discourse on the Nature of Coverture in the Later Medieval Courtroom," in Tim Stretton and Krista J. Kesselring, eds., *Married Women and the Law*, McGill-Queen's University Press, 2013, pp. 24–42.

Cazalas, Mary William, "Usury Law in Louisiana," *Loyola Law Review*, 1968, pp. 301–322.

Chatfield, Sara Nell, "Multiple Orders in Multiple Venues: The Reform of Married Women's Property Rights, 1839-1920." PhD dissertation, University of California, Berkeley 2014.

Chused, Richard, "Married Women's Property Law: 1800-1850," *The Georgetown Law Journal*, 1983, *71*, 1359–1425.

—— and Wendy Williams, *Gendered Law in American History*, Carolina Academic Press, 2016.

Coffin, William T., "Usury in California," *California Law Review*, 1928, *16* (4), 281–297.

de Funiak, William Q., *Principles of Community Property*, Chicago: Callaghan, 1943.

Doepke, Matthias and Michèle Tertilt, "Women's Liberation: What's in it for Men?," *The Quarterly Journal of Economics*, 2009, *124* (4), 1541–1591.

E., Charles G. Martin Ashvin P. Vibhakar Galchus Kenneth, "A History of Usury Law in Arkansas: 1836-1990," *University of Arkansas at Little Rock Law Review*, 1989, *12* (4), 695–737.

Edmonds, John W., "Virginia Law of Interest and Usury," *University of Richmond Law Review*, 1975, *10* (1), 77–109.

Fernández, Raquel, "Women's Rights and Development," *Journal of Economic Growth*, 2014, *19* (1), 37–80.

Fleming, Anne, "The Borrower's Tale: A History of Poor Debtors in Lochner Era New York City," *Law and History Review*, 2012, *30* (4), 1053–1098.

Friedman, Lawrence M., "The Usury Laws of Wisconsin: A Study in Legal and Social History," *Wisconsin Law Review*, 1963, pp. 515–565.

Geddes, Richard R. and Sharon Tennyson, "Passage of the Married Women's Property Acts and Earnings Acts in the United States: 1850-1920," in "Research in Economic History," Vol. 29, Emerald Books, 2013, pp. 145–191.

Geddes, Rick and Dean Lueck, "The Gains from Self-Ownership and the Expansion of Women's Rights," 2000. John M. Olin Program in Law and Economics Working Paper No. 181.

—— and ——, "The Gains From Self-Ownership and the Expansion of Women's Rights," *The American Economic Review*, 2002, *92* (4), 1079–1092.

Gisler, George L., "Legal and Historical Background of Missouri Small Loan Problem," *Missouri Law Review*, 1951, *16* (3), 207–233.

Hamill, Susan P., "From Special Privilege to General Utility: A Continuation of Willard Hurst's Study of Corporations," *American University Law Review*, 1999, *49* (1), 81–180.

Hansard, *Commons Sitting of Wednesday, 14th April, 1869.* House of Commons Hansard April 1869.

Herstein, Carl W., "Michigan Usury Law," *Wayne Law Review*, 1981, *27*, 435–509.

Hoff, Joan, *Law, Gender, and Injustice*, New York University Press, 1991.

Holcombe, Lee, *Wives and Property*, University of Toronto Press, 1983.

Holmes, George K., "Usury in Law, in Practice and in Psychology," *Political Science Quarterly*, 1892, *7*, 431–467.

Kelly, J. F., *A Treatise on the Law of Contracts of Married Women*, D. Linn & Co., 1882.

Khan, Zorina B., "Married Women's Property Laws and Female Commercial Activity: Evidence from United States Patent Records, 1790-1895," *The Journal of Economic History*, 1996, *56* (2), 356–388.

Lazarou, Kathleen E., "Concealed under Petticoats: Married Women's Property and the Law of Texas 1840-1913." PhD dissertation, Rice University 1980.

Lyons, John D., "Development of Community Property Law in Arizona," *Louisiana Law Review*, 1955, *15* (3), 512–525.

Macey, Jonathan R. and Geoffrey P. Miller, "Double Liability of Bank Shareholders: History and Implications," *Wake Forest Law Review*, 1992, *27*, 31–62. Paper 1642.

Martin, Robert G., "New Kansas Usury Laws and Interest Rate Regulation," *Washburn Law Journal*, 1981, pp. 573–599.

Mitchener, Kris J. and Matthew Jaremski, "The Evolution of Bank Supervisory Institutions: Evidence from American States," *The Journal of Economic History*, 2015, *75* (3), 819–859.

Moore, David McDaniel, "Usury Law in North Carolina," *NORTH CAROLINA LAW REVIEW*, 1969, *47* (4), 761–794.

Morton, Jack and Roger Barber, "Recent Developments in Business Law," *Montana Law Review*, 1978, *39* (1), 53–78.

O'Brien, Charles, "The Growth in Pennsylvania of the Property Rights of Married Women," *University of Pennsylvania Law Review*, 1901, *49*, 524–530.

Pearce, Ray and J. McDonald Williams, "Punitive Past to Current Convenience - A Study of the Texas Law of Usury," *Southwestern Law Journal*, 1968, *22*, 233–259.

Rhoden, Rom, "Usury: Legislation in Mississippi," *Mississippi College Law Review*, 1981, *2* (2), 117–141.

Roberts, Evan Warwick, "Her Real Sphere? Married Women's Labor Force Participation in the United States, 1860-1940." PhD dissertation, University of Minnesota 2007.

Rockoff, Hugh, "ŞProdigals and Projectors: An Economic History of Usury Laws in the United States from Colonial Times to 1900," in Frank Lewis David Eltis and Kenneth Sokoloff, eds., *Human Capital and Institutions: A Long-run View*, Combridge University Press 2009, pp. 285–323.

Rolnick, Arthur J. Stanley L. Graham and David S. Dahl, "MinnesotaŠs Usury Law: An Evaluation," *Ninth District Quarterly*, 1975, pp. 16–24.

Ruggles, Steven J., Trent Alexander, Katie Genadek, Ronald Goeken, Matthew B. Schroeder, and Matthew Sobek, *Integrated Public Use Microdata Series: Version 5.0 [Machine-readable database]*, Minneapolis, MN: Minnesota Population Center [producer and distributor], 2010.

Ryan, Franklin W., "Usury and usury laws; a juristic-economic study of the effects of state statutory maximums for loan charges upon lending operations in the United States." PhD dissertation, Harvard University 1924.

Salmon, Marylynn, *Women and the Law of Property in Early America*, University of North Carolina Press, 1986.

Schuele, Donna C., "Community Property Law and the Politics of Married Women's Rights in Nineteenth-Century California," *Western Legal History*, 1994, *7* (2), 245–281.

Schwalm, David L., "Usury in Pennsylvania: Revision of Maximum Interest Rate and Finance Charge Laws," *Dickson Law Review*, 1979, pp. 241–265.

Siegman, Jerome and Richard C. Linquanti, "The Convertible, Participating Mortgage: Planning Opportunities and Legal Pitfalls in Structuring the Transaction," *University of Colorado Law Review*, Spring 1983, pp. 1–56.

Smith, Hal M., "Limits on Interest Rates in Maryland," *Maryland Law Review*, 1967, *27* (3), 252–272.

Stow, J.W., *Unjust Laws which Govern Woman: Probate Confiscation*, Published and sold by the Author, 1877.

VanBurkleo, Sandra F., *"Belonging to the World": Women's Rights and American Constitutional Culture*, Oxford University Press, 2001.

Yurchuck, Roger A. and James M. Ball, "OHIO USURY LAWS AND THE REAL ESTATE MORTGAGE LENDING MARKET - A SAVINGS ASSOCIATION VIEWPOINT," *AKRON LAW REVIEW*, 1979, *12* (4), 671–687.

Zeigler, Sara L., "Uniformity and Conformity: Regionalism and the Adjudication of the Married Women's Property Acts," *Polity*, 1996, *28* (4), 467–495.

Table H.1: Predicting Women's Economic Rights

	Dependent Variable: Rights												
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Relative TFP	0.008											-0.028*	-0.025
	(0.012)											(0.014)	(0.017)
Urbanization Rate		0.750**										0.746*	0.763
		(0.355)										(0.406)	(0.493)
Fraction Democrat			-0.016									0.013	0.073
			(0.195)									(0.195)	(0.254)
Fraction Female				-0.091								-1.528**	-2.033
				(0.389)								(0.602)	(1.230)
Fraction Female in School					-0.404							1.153	1.348
					(0.652)							(0.911)	(1.199)
Fraction Male in School						-0.186						-0.465	-0.788
						(0.564)						(1.128)	(1.324)
Fraction Adult Under age 35							0.267					-0.487	-0.775
							(0.652)					(0.806)	(0.931)
Incorporation								0.094				0.128	0.157
								(0.099)				(0.093)	(0.099)
Reserve Requirement									0.019			-0.012	-0.024
									(0.067)			(0.059)	(0.070)
Double Liability										0.072		0.082	0.078
										(0.060)		(0.074)	(0.084)
Bank Authority											0.110	0.077	0.069
											(0.071)	(0.064)	(0.068)
Obs.	356	356	324	356	356	356	356	356	356	356	356	324	324
R^2	0.681	0.692	0.718	0.679	0.680	0.679	0.680	0.681	0.679	0.681	0.683	0.745	0.763

Notes. Standard errors, clustered at the state level are in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. All columns include state fixed effect using political borders from 1850. Columns 1-12 include year fixed effects, Column 13 includes regional-year fixed effects.

Table H.2: Mean and # of Obs. (in Parentheses) Portfolio and Rights

Variable	Switching States		Other States	
	1860	1870	1860	1870
Fraction Married	0.93	0.93	0.91	0.92
	(7,694)	(10,497)	(26,739)	(34,601)
Fraction Married $\leq$30	0.93	0.92	0.89	0.91
	(2,032)	(2,316)	(6,775)	(7,498)
Fraction Newly-Wed	0.023	0.016	0.018	0.013
	(7,694)	(10,497)	(26,739)	(34,601)
Fraction Newly-Wed $\leq$30	0.070	0.057	0.056	0.045
	(2,032)	(2,316)	(6,775)	(7,498)
Age at Marriage (Newly-Wed $\leq$30)	24.61	24.62	24.42	24.47
	(140)	(131)	(378)	(341)
Age Gap (Newly-Wed $\leq$30)	4.04	3.60	3.46	3.72
	(139)	(130)	(372)	(338)

Table H.3: Rights and Interest Rates, Deposits, and Loans. Alternative Dates

Dependent Variable:	Interest Rate			Deposits			Loans		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Rights	-1.049***	-0.904***	-0.799***	2.053*	1.912*	0.802	2.102*	1.733	1.197
	(0.269)	(0.272)	(0.255)	(1.042)	(1.069)	(0.741)	(1.125)	(1.102)	(1.077)
Year FE	Yes	Yes	No	Yes	Yes	No	Yes	Yes	No
Region×Year FE	No	No	Yes	No	No	Yes	No	No	Yes
Financial Control	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes
Obs.	1,971	1,971	1,971	2,506	2,506	2,506	2,508	2,508	2,508
R^2	0.738	0.743	0.800	0.349	0.349	0.617	0.223	0.224	0.398

Notes. Standard errors, clustered at the state level are in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. All regressions include state fixed effects, a dummy for territory and the fraction of neighboring states with rights. Financial Controls include the maximum legal rate of interest as well as dummies for a state having a reserve requirement, double liability for bank shareholders, and a bank authority. Regressions are weighted by state population.

Table H.4: Rights and Reallocation of Labor: Alternate Dates

	Dependent Variable: % Male Workers in Non Agriculture					
	(1)	(2)	(3)	(4)	(5)	(6)
$\geq$ 3 Decades Before	-0.007	-0.017	-0.034	-0.020	-0.017	-0.028
	(0.029)	(0.028)	(0.027)	(0.024)	(0.024)	(0.023)
2 Decades Before	0.012	0.007	0.003	0.002	0.004	0.013
	(0.024)	(0.023)	(0.024)	(0.020)	(0.019)	(0.021)
1 Decade Before	0	0	0	0	0	0
Rights Given	0.020*	0.021*	0.019*	0.017	0.021*	0.016
	(0.011)	(0.011)	(0.010)	(0.010)	(0.011)	(0.010)
1 Decade After	0.034*	0.037*	0.033*	0.024	0.028	0.021
	(0.018)	(0.018)	(0.019)	(0.018)	(0.017)	(0.015)
2 Decades After	0.058***	0.060**	0.054**	0.037	0.040*	0.031
	(0.026)	(0.025)	(0.026)	(0.024)	(0.023)	(0.022)
$\geq$3 Decades After	0.075**	0.076**	0.071**	0.051*	0.054*	0.044
	(0.031)	(0.031)	(0.032)	(0.029)	(0.029)	(0.028)
Relative TFP		0.002	-0.001	0.001	0.001	0.005
		(0.004)	(0.003)	(0.003)	(0.003)	(0.004)
State FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	No
(Year$\times$Region) FE	No	No	No	No	No	Yes
Incorporation	No	Yes	Yes	Yes	Yes	Yes
Fraction Female	No	No	Yes	Yes	Yes	Yes
Frac. Female in School & Frac. Male in School	No	No	Yes	Yes	Yes	Yes
Fraction Under Age 35	No	No	No	Yes	Yes	Yes
Fraction Neighboring States with Rights	No	No	No	No	Yes	Yes
Obs.	356	356	356	356	356	356
R^2	0.937	0.938	0.951	0.956	0.957	0.970

Notes. Standard errors clustered at the state level in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. All specifications include a dummy for territory. Regressions are weighted by state population.

Table H.5: Portfolio: Main Exercise - Main and Robustness State Level Controls

	(1)	(2)	(3)	(4)	(5)
	Panel A – Fraction Moveable				
Switch×Post	0.010*	0.082***	0.065***	0.065***	0.066***
	(0.006)	(0.005)	(0.006)	(0.006)	(0.005)
R^2	0.102	0.102	0.191	0.203	0.190
	Panel B – Extensive Margin, Moveable				
Switch×Post	0.013***	0.062***	0.064***	0.064***	0.065***
	(0.004)	(0.003)	(0.003)	(0.003)	(0.003)
R^2	0.053	0.054	0.073	0.076	0.073
	Panel C – Extensive Margin, Real				
Switch×Post	-0.017**	-0.094***	-0.075***	-0.074***	-0.078***
	(0.008)	(0.006)	(0.007)	(0.007)	(0.007)
R^2	0.119	0.120	0.218	0.241	0.218
	Common to all Panels				
State Control	No	Yes	Yes	Yes	Yes
Individual Control	No	No	Yes	Yes	Yes
Total Assets	No	No	No	Yes	No
Sample	All	All	All	All	Non CP
Obs.	57,785	57,785	57,785	57,785	56,998

Notes. Standard errors are clustered at the state-year level in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. "Fraction Moveable" is the fraction of the household portfolio in moveable assets. "Extensive" is an indicator variable for the possession of nonzero amounts of either moveable or real assets. *Switch* is a dummy variable equal to one if the state granted rights for the first time between 1860 and 1870, namely Colorado, Illinois, Minnesota, New Hampshire, and Ohio (Wyoming is dropped due to small sample size). All specifications include the 1870 fixed effect (*Post*) and county fixed effects. State Controls include TFP in the non-agricultural sector relative to TFP in the agricultural sector, urbanization rates, the fraction of votes for the Democratic candidate in most recent gubernatorial election, the fraction of the population that is female, wealth per capita, fraction of the population born outside of common law countries, the fraction of female in school, and the presence of a women's suffrage advocacy group. Individual Controls include age fixed effects and a fixed effect for living on a farm. All State and Individual Controls are interacted with *Post*. The sample "All" includes all states not in the South region. The sample "Non CP" excludes community property states.

Table H.6: Portfolio Border – Robustness State Level Controls

	(1)	(2)	(3)	(4)	(5)
	Panel A – Fraction Moveable				
Switch×Post	0.007	0.032**	0.028**	0.020*	0.027**
	(0.011)	(0.013)	(0.013)	(0.011)	(0.012)
R^2	0.086	0.086	0.177	0.172	0.192
	Panel B – Extensive Margin, Moveable				
Switch×Post	0.026***	0.034**	0.033**	0.032**	0.034**
	(0.008)	(0.015)	(0.015)	(0.015)	(0.015)
R^2	0.057	0.057	0.078	0.076	0.081
	Panel C – Extensive Margin, Real				
Switch×Post	-0.012	-0.056***	-0.051***	-0.027	-0.048***
	(0.014)	(0.018)	(0.017)	(0.017)	(0.015)
R^2	0.092	0.092	0.191	0.190	0.218
	Common to all Panels				
State Control	No	Yes	Yes	Yes	Yes
Individual Control	No	No	Yes	Yes	Yes
Total Assets	No	No	No	No	Yes
Sample	All	All	All	No South	All
Obs.	46,238	46,238	46,238	43,243	46,238

Notes. Standard errors are clustered at the state-year level in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. "Fraction Moveable" is the fraction of the household portfolio in moveable assets. "Extensive" is an indicator variable for the possession of nonzero amounts of either moveable or real assets. *Switch* is a dummy variable equal to one if the state granted rights for the first time between 1860 and 1870, namely Illinois, Minnesota, New Hampshire, and Ohio (Colorado and Wyoming are dropped due to small sample size). All specifications include the 1870 fixed effect (*Post*) and county fixed effects. State Controls include wealth per capita, fraction of the population born outside of common law countries, the fraction of female in school, and the presence of a women's suffrage advocacy group. Individual Controls include age fixed effects and a fixed effect for living on a farm. All State and Individual Controls are interacted with *Post*. The sample "All" includes all *Switch* states and their bordering states. The sample "No South" excludes West Virginia and Kentucky.

Table H.7: Portfolio Border – Main State Level Controls Deviations

	(1)	(2)	(3)	(4)
	Panel A – Fraction Moveable			
Switch×Post	0.024	0.061***	0.054***	0.049***
	(0.017)	(0.012)	(0.014)	(0.010)
R^2	0.177	0.177	0.177	0.177
	Panel B – Extensive Margin, Moveable			
Switch×Post	0.061***	0.083***	0.073***	0.070***
	(0.015)	(0.009)	(0.012)	(0.008)
R^2	0.078	0.078	0.078	0.078
	Panel C – Extensive Margin, Real			
Switch×Post	-0.029	-0.073***	-0.052***	-0.057***
	(0.018)	(0.011)	(0.016)	(0.015)
R^2	0.191	0.191	0.191	0.191
State Control	"A"	"B"	"C"	"D"
Obs.	46,238	46,238	46,238	46,238

Notes. Standard errors are clustered at the state-year level in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. "Fraction Moveable" is the fraction of the household portfolio in moveable assets. "Extensive" is an indicator variable for the possession of nonzero amounts of either moveable or real assets. *Switch* is a dummy variable equal to one if the state granted rights for the first time between 1860 and 1870, namely Illinois, Minnesota, New Hampshire, and Ohio. All specifications include the 1870 fixed effect (*Post*) and county fixed effects. State Controls "A" include the fraction of males workers in non agriculture, urbanization rates, the fraction of the population that is female, and the fraction of votes for the Democratic candidate in most recent gubernatorial election. State Controls "B" include TFP in the non-agricultural sector relative to TFP in the agricultural sector, urbanization rates, the fraction of the population that is female, and the fraction of the population born outside of common law countries. State Controls "C" include wealth per capita, urbanization rates, fraction of the population that is female, and the fraction of votes for the Democratic candidate in most recent gubernatorial election. State Controls "D" include TFP in the non-agricultural sector relative to TFP in the agricultural sector, urbanization rates, the fraction of female in school, and the fraction of votes for the Democratic candidate in most recent gubernatorial election. All regressions include individual controls: age fixed effects and a fixed effect for living on a farm. All State and Individual Controls are interacted with *Post*.

Table H.8: Portfolio Border- Robustness State Level Controls Deviations

	(1)	(2)	(3)	(4)
	Panel A – Fraction Moveable			
Switch×Post	0.037	0.025	0.039***	0.017
	(0.027)	(0.015)	(0.013)	(0.010)
R^2	0.176	0.177	0.177	0.177
	Panel B – Extensive Margin, Moveable			
Switch×Post	0.058**	0.030*	0.048***	0.027**
	(0.026)	(0.017)	(0.015)	(0.012)
R^2	0.077	0.078	0.077	0.078
	Panel C – Extensive Margin, Real			
Switch×Post	-0.056**	-0.048**	-0.056***	-0.024
	(0.026)	(0.019)	(0.018)	(0.014)
R^2	0.191	0.191	0.191	0.191
State Control	"E"	"F"	"G"	"H"
Obs.	46,238	46,238	46,238	46,238

Notes. Standard errors are clustered at the state-year level in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. "Fraction Moveable" is the fraction of the household portfolio in moveable assets. "Extensive" is an indicator variable for the possession of nonzero amounts of either moveable or real assets. *Switch* is a dummy variable equal to one if the state granted rights for the first time between 1860 and 1870, namely Illinois, Minnesota, New Hampshire, and Ohio. All specifications include the 1870 fixed effect (*Post*) and county fixed effects. State Controls "E" include wealth per capita, fraction of the population born outside of common law countries, the fraction of female in school, and the fraction of the population that is female. State Controls "F" include wealth per capita, fraction of the population born outside of common law countries, the fraction of male in school, and the presence of a women's suffrage advocacy group. State Controls "G" include wealth per capita, fraction of the population born outside of common law countries, the fraction of female in school, and the fraction of votes for the Democratic candidate in most recent gubernatorial election. State Controls "H" include wealth per capita, the presence of a women's suffrage advocacy group, the fraction of female in school, and the fraction of votes for the Democratic candidate in most recent gubernatorial election. All regressions include individual controls: age fixed effects and a fixed effect for living on a farm. All State and Individual Controls are interacted with *Post*.

Table H.9: Rights and Interest Rates, Deposits, and Loans – Robustness

Dependent Variable:	Interest Rate		Deposits		Loans	
	(1)	(2)	(3)	(4)	(5)	(6)
Rights	-0.568	-0.520*	1.930***	1.224*	2.007**	1.444*
	(0.399)	(0.291)	(0.686)	(0.689)	(0.748)	(0.777)
Region×Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Sample	Non CP	Rights≤1920	Non CP	Rights≤1920	Non CP	Rights≤1920
Obs.	1,648	1,813	2,130	2,320	2,132	2,322
R^2	0.804	0.810	0.633	0.619	0.395	0.399

Notes. Standard errors clustered at the state level in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. All regressions include state fixed effects, a dummy for territory, the fraction of neighboring states with rights. Financial Controls include the maximum legal rate of interest as well as dummies for a state having a reserve requirement, double liability for bank shareholders, and a bank authority. Sample "Non CP" drops all states with community property rights. Sample "Rights≤1920" drops states that gave rights after 1920. Regressions are weighted by state population.

Table H.10: Rights and Reallocation of Labor – Robustness

	Dependent Variable: % Male Workers in Non Agriculture				
	(1)	(2)	(3)	(4)	(5)
$\geq$ 3 Decades Before	-0.023	-0.031	-0.028	0.005	-0.019
	(0.015)	(0.024)	(0.026)	(0.019)	(0.019)
2 Decades Before	0.006	-0.013	0.006	0.018	0.012
	(0.016)	(0.009)	(0.025)	(0.019)	(0.017)
1 Decade Before	0	0	0	0	0
Rights Given	0.020***	0.023***	0.045***	0.025**	0.026***
	(0.006)	(0.008)	(0.015)	(0.010)	(0.007)
1 Decade After	0.034***	0.040**	0.087***	0.037**	0.039***
	(0.011)	(0.016)	(0.021)	(0.016)	(0.012)
2 Decades After	0.042***	0.044**	0.111***	0.045*	0.050**
	(0.016)	(0.022)	(0.024)	(0.023)	(0.019)
$\geq$3 Decades After	0.039*	0.050*	0.128***	0.040	0.050**
	(0.021)	(0.029)	(0.029)	(0.030)	(0.024)
Relative TFP	0.008***	0.007*	-0.002	0.008**	0.007**
	(0.003)	(0.004)	(0.003)	(0.003)	(0.003)
Year FE	No	No	Yes	No	No
(Year$\times$Region) FE	Yes	Yes	No	Yes	Yes
Sample	Alternative L^M	w/o 1890	w/o Rights 1870-1880	Non CP	Rights$\leq$1920
Obs.	356	308	197	299	326
R^2	0.965	0.973	0.954	0.975	0.973

Notes. Standard errors clustered at the state level in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. All specifications include a dummy for being a territory, incorporation dummy, as well as the fractions of the population that are female, under 35, the fraction of women and the fraction of men in school, and the fraction of neighboring states with rights. Sample "L^M" redefines non-agricultural employment. Sample "w/o 1890" drops observations from 1890. Sample "w/o Rights 1870–1880" drops states that granted rights between 1870 and 1880. "Non CP" drops all states with community property rights. Sample "Rights$\leq$1920" drops states that gave rights after 1920. Regressions are weighted by state population.

Table H.11: Rights and Reallocation of Labor – Border Analysis, Robustness

	Dependent Variable: % Male Workers in Non Agriculture				
	(1)	(2)	(3)	(4)	(5)
$\geq$ 3 Decades Before	-0.007	-0.023	0.066*	0.003	0.003
	(0.025)	(0.017)	(0.038)	(0.029)	(0.029)
2 Decades Before	0.006	-0.007	-0.013	0.012	0.011
	(0.014)	(0.008)	(0.019)	(0.014)	(0.015)
1 Decade Before	0	0	0	0	0
Rights Given	0.065***	0.028***	0.045**	0.076***	0.073***
	(0.015)	(0.010)	(0.020)	(0.016)	(0.015)
1 Decade After	0.092***	0.052***	0.035	0.104***	0.101***
	(0.024)	(0.018)	(0.024)	(0.026)	(0.024)
2 Decades After	0.062**	0.049**	0.010	0.057**	0.059**
	(0.024)	(0.019)	(0.035)	(0.026)	(0.025)
$\geq$3 Decades After	0.059*	0.039	0.008	0.051	0.055
	(0.031)	(0.027)	(0.049)	(0.034)	(0.033)
Relative TFP	-0.004	-0.001	-0.013**	-0.007	-0.007
	(0.004)	(0.004)	(0.006)	(0.005)	(0.005)
Year FE	No	No	Yes	No	No
(Year$\times$Region) FE	Yes	Yes	No	Yes	Yes
Sample	Alternative L^M	w/o 1890	w/o Rights 1870-1880	Non CP	Rights$\leq$1920
Obs.	1,338	1,183	664	1,184	1,265
R^2	0.898	0.947	0.892	0.913	0.913

Notes. Standard errors clustered at the state border-pair in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. All specifications include a dummy for being a territory, incorporation dummy, as well as the fractions of the population that are female, under 35, the fraction of women and the fraction of men in school, and the fraction of neighboring states with rights. Sample "L^M" redefines non-agricultural employment. Sample "w/o 1890" drops observations from 1890. Sample "w/o Rights 1870–1880" drops states that granted rights between 1870 and 1880. "Non CP" drops all states with community property rights. Sample "Rights$\leq$1920" drops states that gave rights after 1920. Regressions are weighted by state-border population.

Table H.12: Rights and Employment by Capital Intensity – Robustness

Dependent Variable:	Ratio of High to Low KL			
	(1)	(2)	(3)	(4)
$\geq$ 3 Decades Before	-2.059	-2.355	-2.346*	-1.913
	(1.221)	(1.709)	(1.340)	(1.284)
2 Decades Before	-0.466	-0.113	-0.436	-0.199
	(0.496)	(0.803)	(0.511)	(0.481)
1 Decade Before	0	0	0	0
Rights Given	2.182**	2.959**	2.330**	2.080**
	(0.972)	(1.393)	(1.079)	(0.918)
1 Decade After	1.822*	3.245**	2.346**	2.288**
	(0.965)	(1.456)	(1.108)	(0.951)
2 Decades After	2.761**	4.281**	2.818**	2.841**
	(1.290)	(2.041)	(1.339)	(1.206)
$\geq$3 Decades After	2.647**	4.230**	2.350**	2.795**
	(1.047)	(1.691)	(1.111)	(1.041)
Relative TFP	0.356	0.274	0.285	0.337
	(0.246)	(0.298)	(0.220)	(0.240)
Controls	Yes	Yes	Yes	Yes
Year FE	No	Yes	No	No
(Year$\times$Region) FE	Yes	No	Yes	Yes
Sample	w/o 1890	w/o Rights 1870-1880	Non CP	Rights$\leq$1920
Obs.	297	190	292	317
R^2	0.719	0.681	0.707	0.691

Notes. Standard errors clustered at the state level in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. All specifications include 1850 State fixed effects a dummy for territory. Controls include the fractions of the population that are female, under 35, the fraction of women in school, the men in school, and an incorporation dummy. Sample "w/o 1890" drops observations from 1890. Sample "w/o Rights 1870–1880" drops states that granted rights between 1870 and 1880. "Non CP" drops all states with community property rights. Sample "Rights$\leq$1920" drops states that gave rights after 1920. Regressions are weighted by state population.

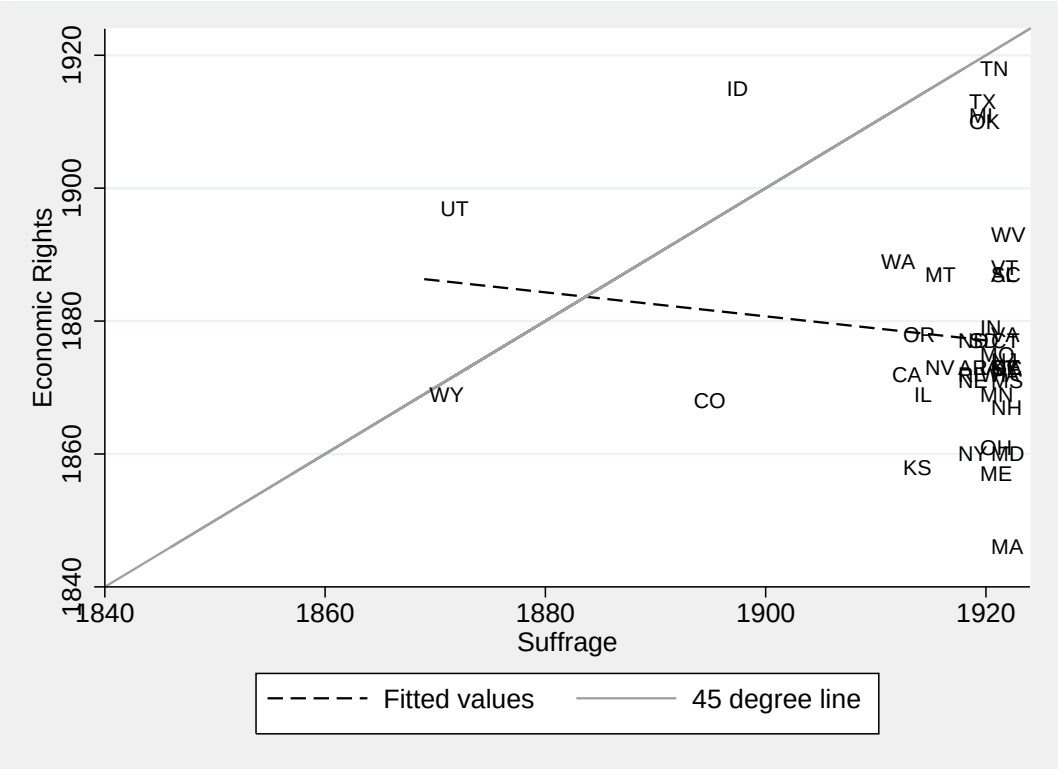

Figure H.1: Women's Economic Rights and Suffrage, by State

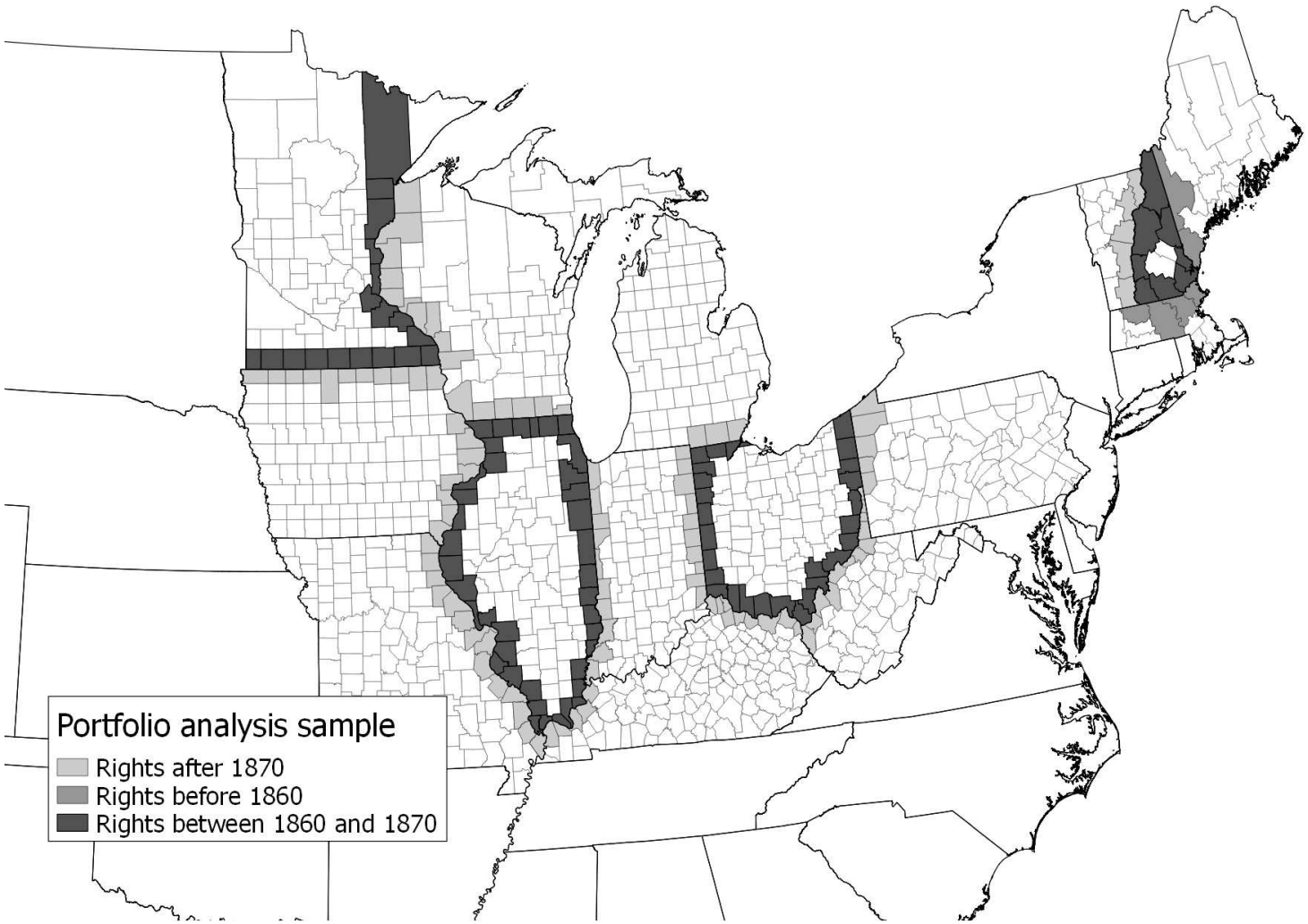

Figure H.2: State Borders, 1860-1870 Portfolio Exercise. States included in the sample have their county borders outlined. Counties on the border between a state granting rights between 1860 and 1870 and control states are highlighted for emphasis.

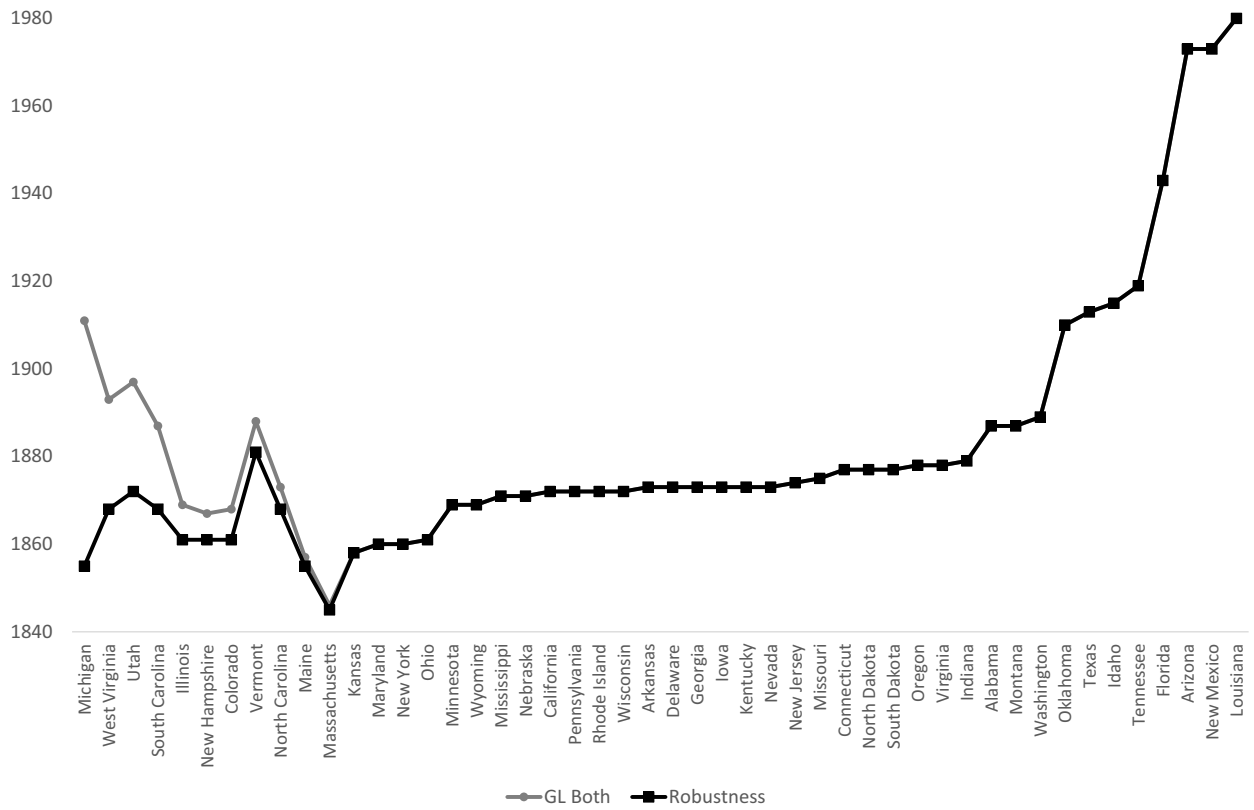

Figure H.3: Comparing Dates: Geddes and Lueck (2002) versus Robustness

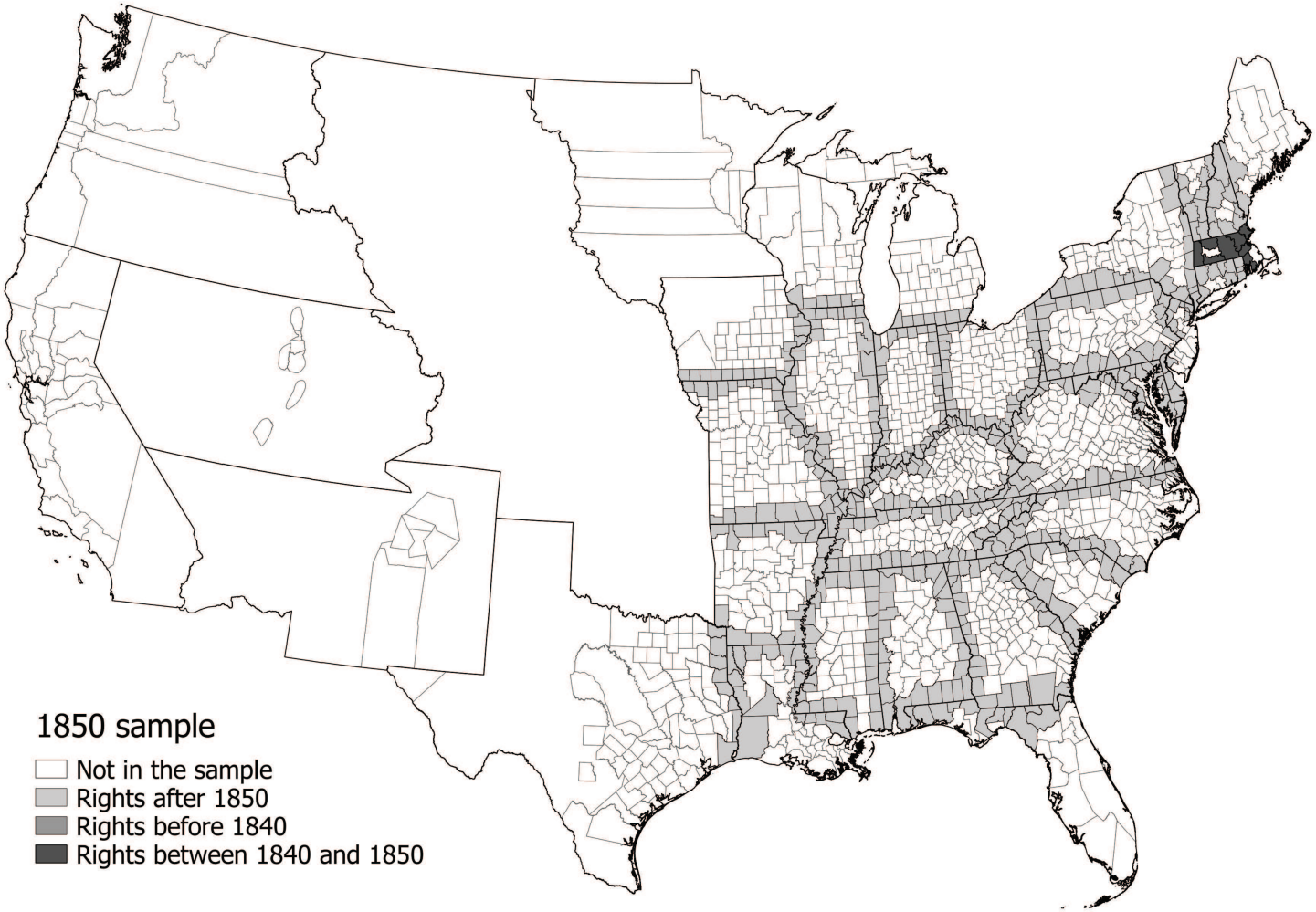

Figure H.4: State Borders, 1850

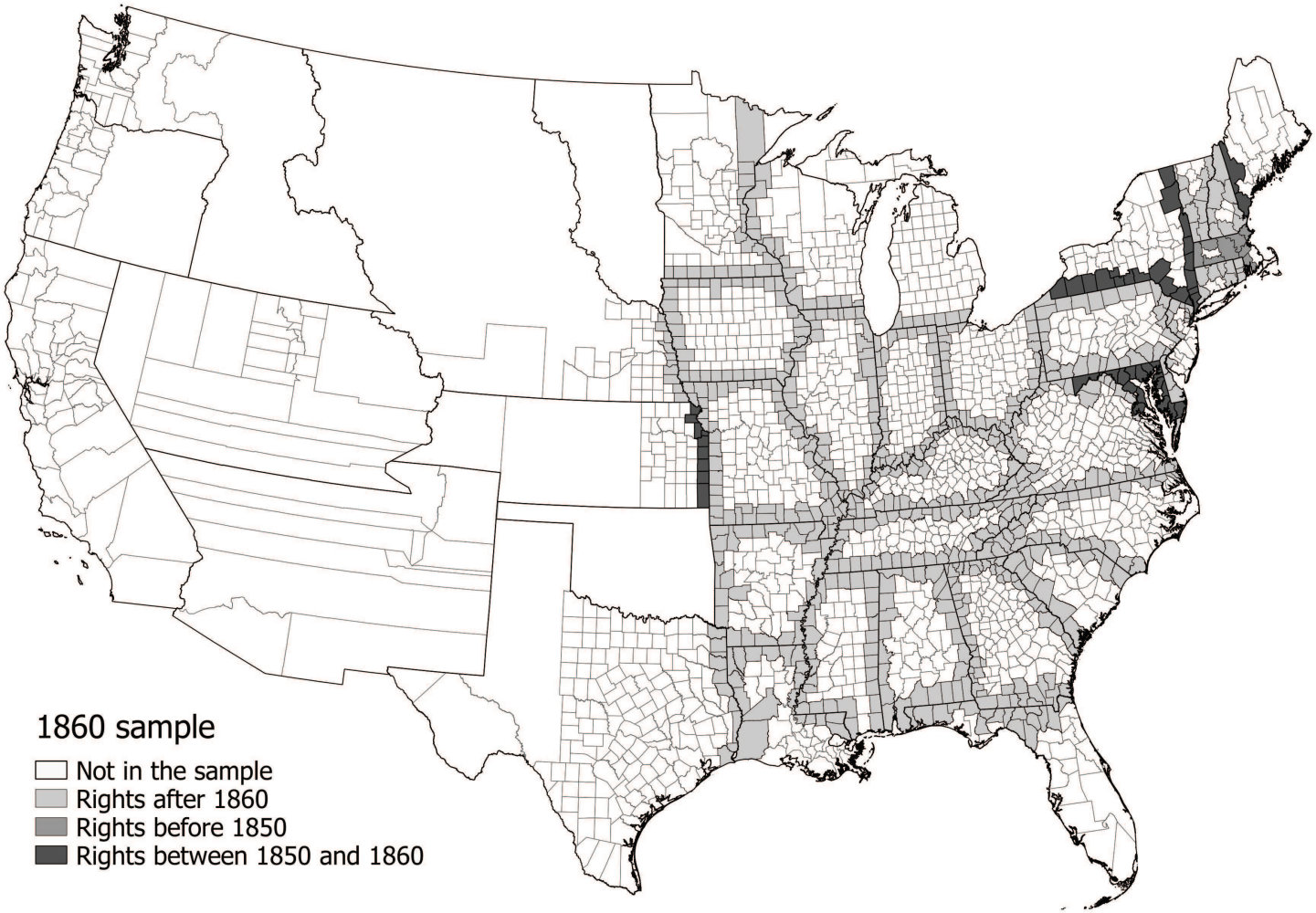

Figure H.5: State Borders, 1860

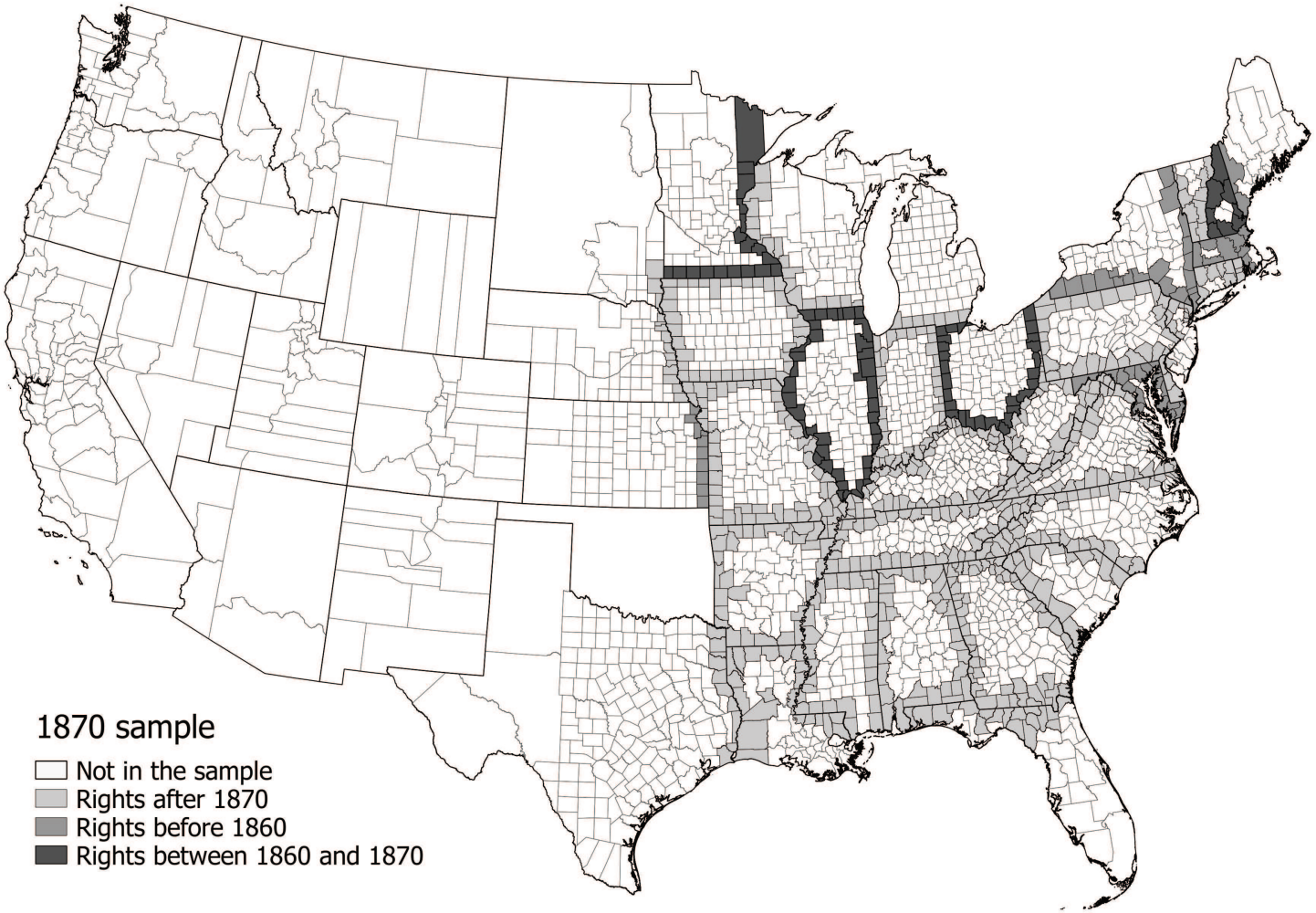

Figure H.6: State Borders, 1870

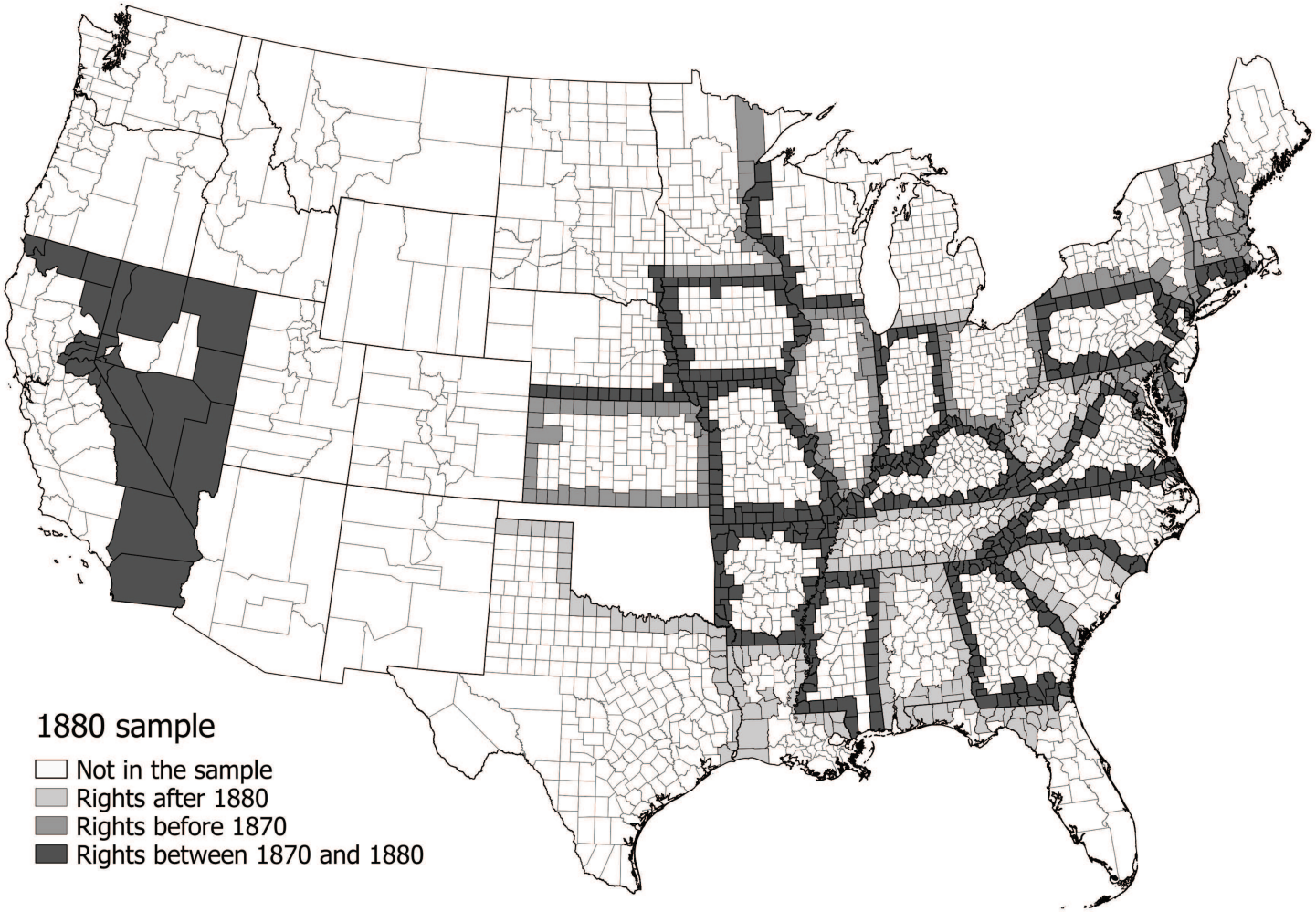

Figure H.7: State Borders, 1880

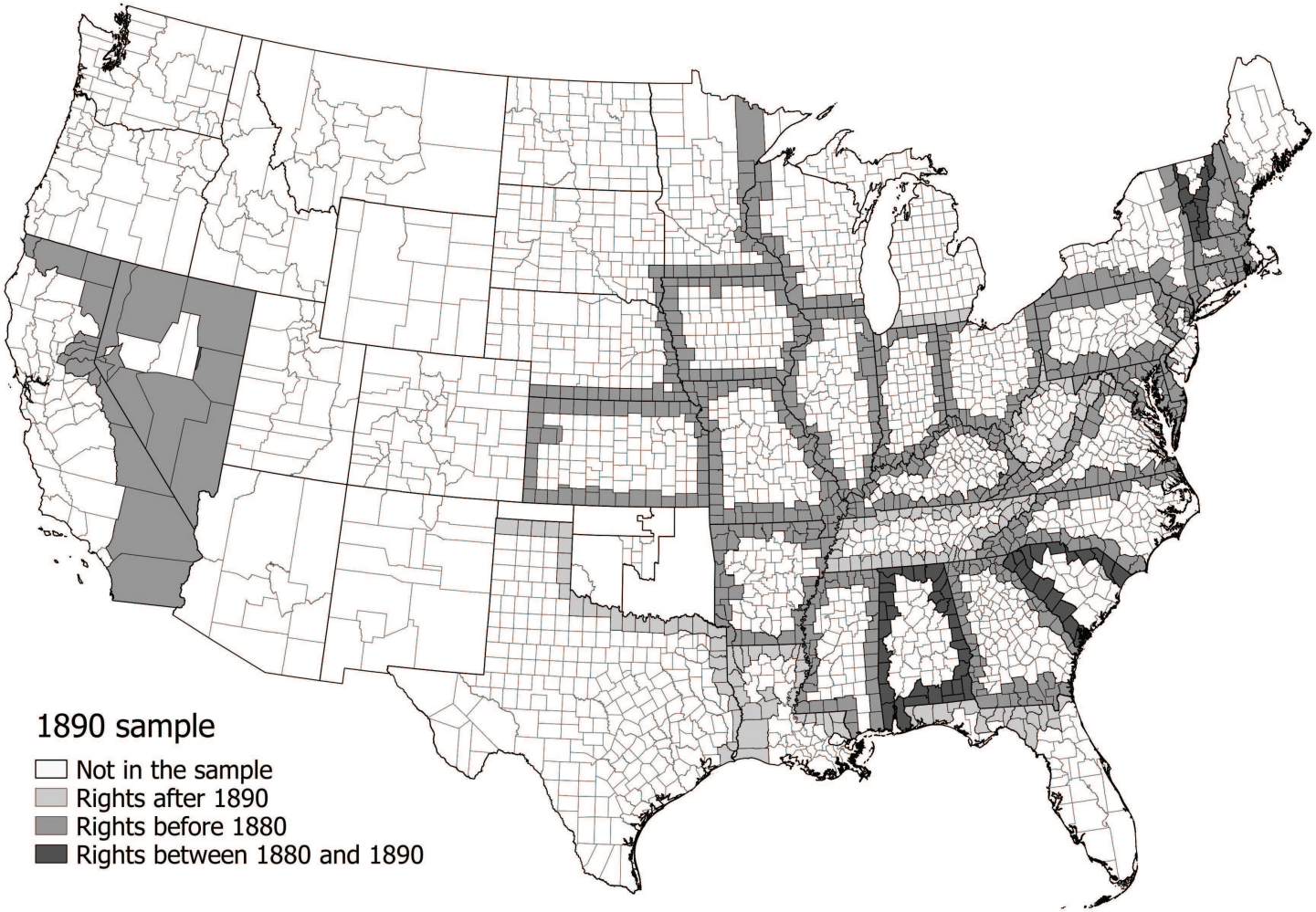

Figure H.8: State Borders, 1890

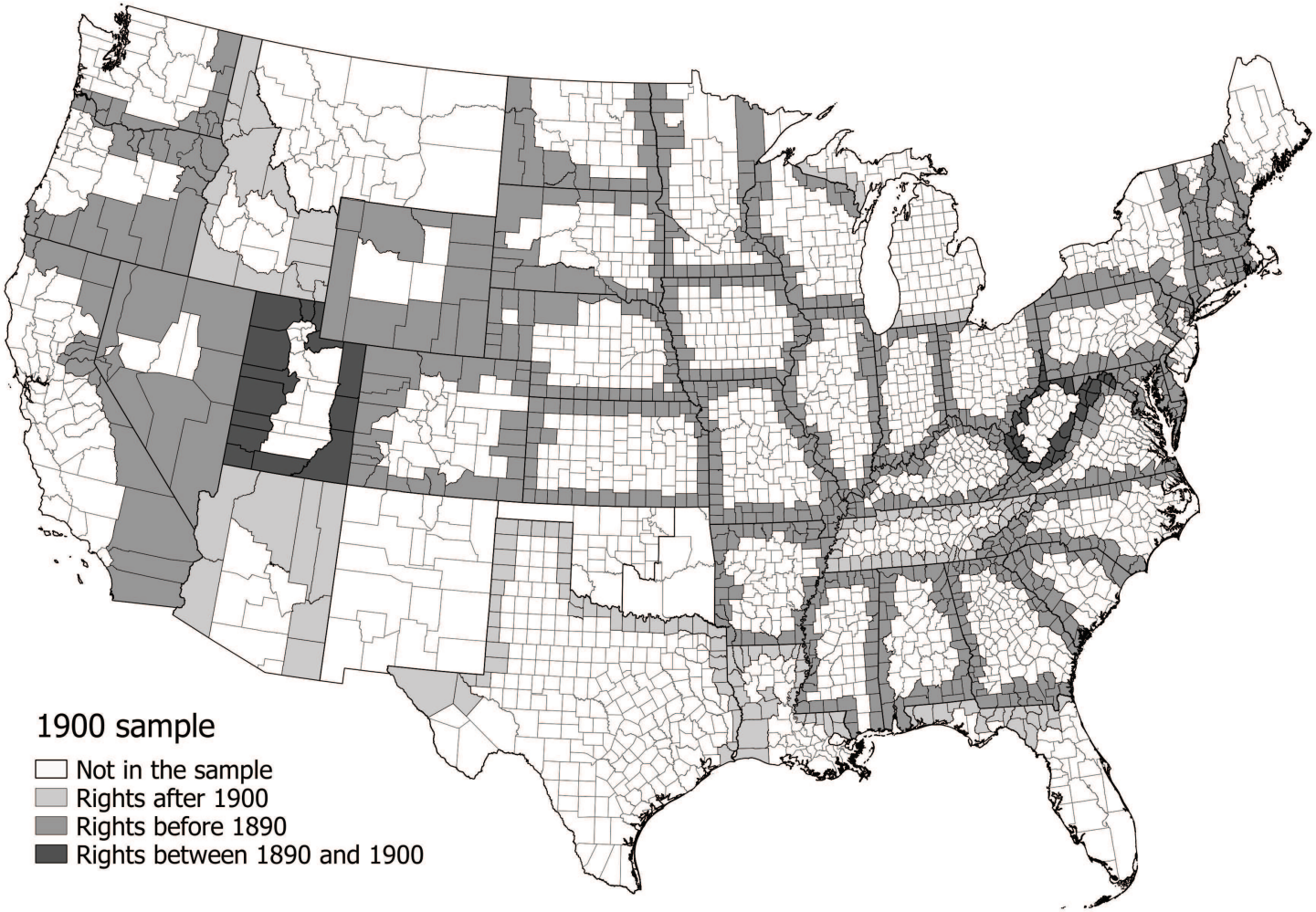

Figure H.9: State Borders, 1900

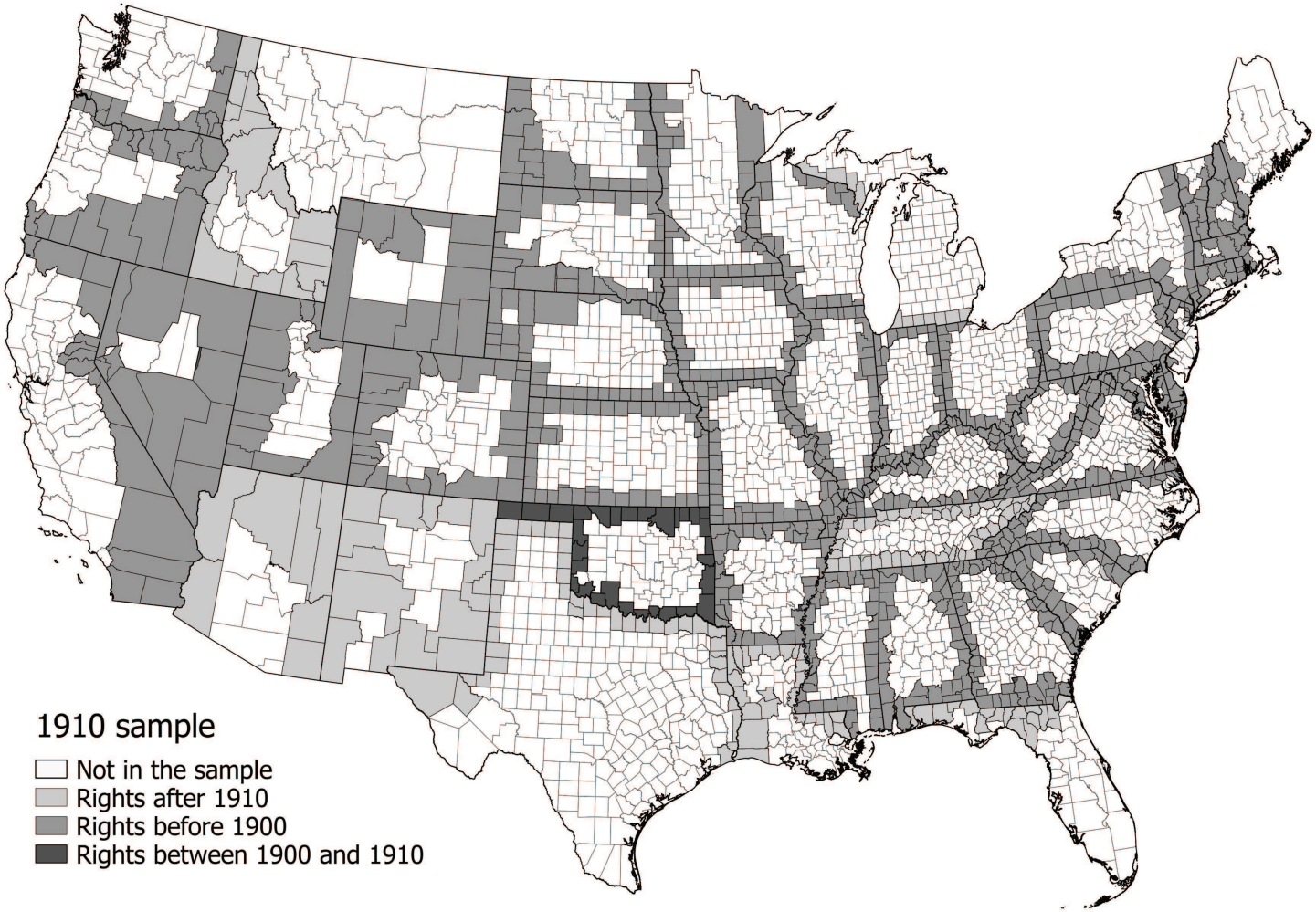

Figure H.10: State Borders, 1910

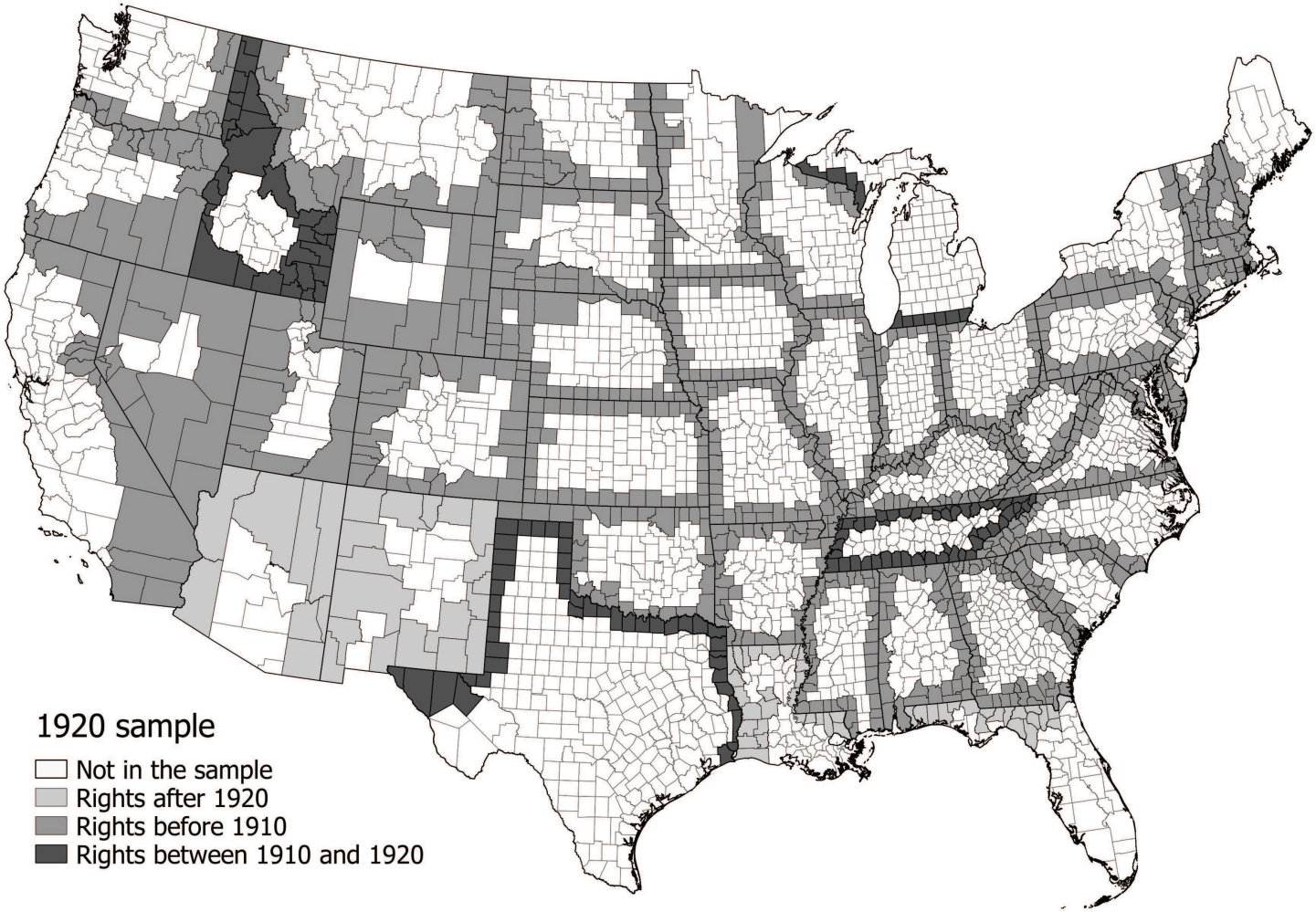

Figure H.11: State Borders, 1920

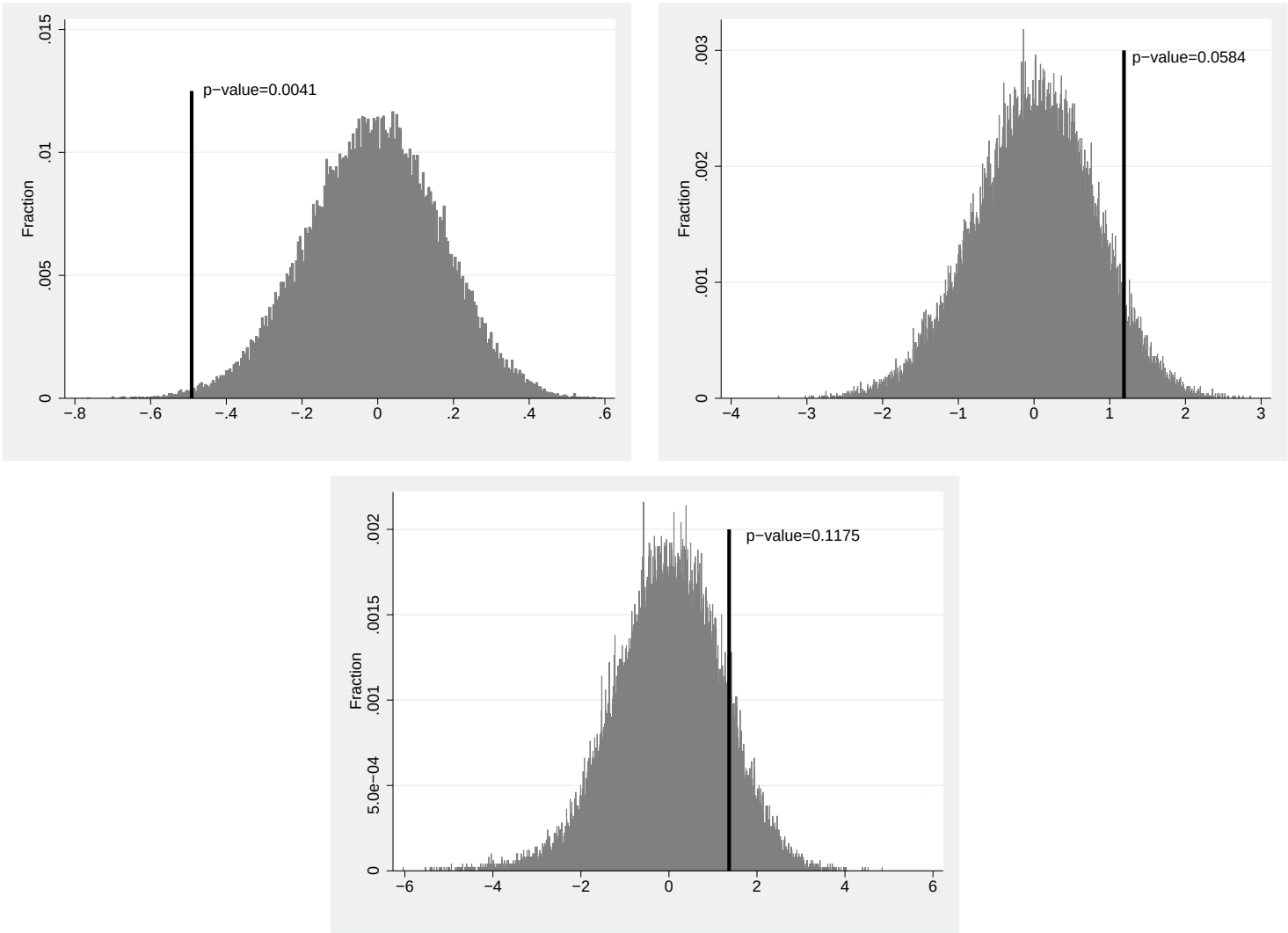

Figure H.12: Results of 50,000 simulations of randomly assigned women's liberation dates. The top left shows the coefficient α on the regression for the interest rate, the top right shows the coefficient for deposits, and the bottom shows the coefficient for loans.

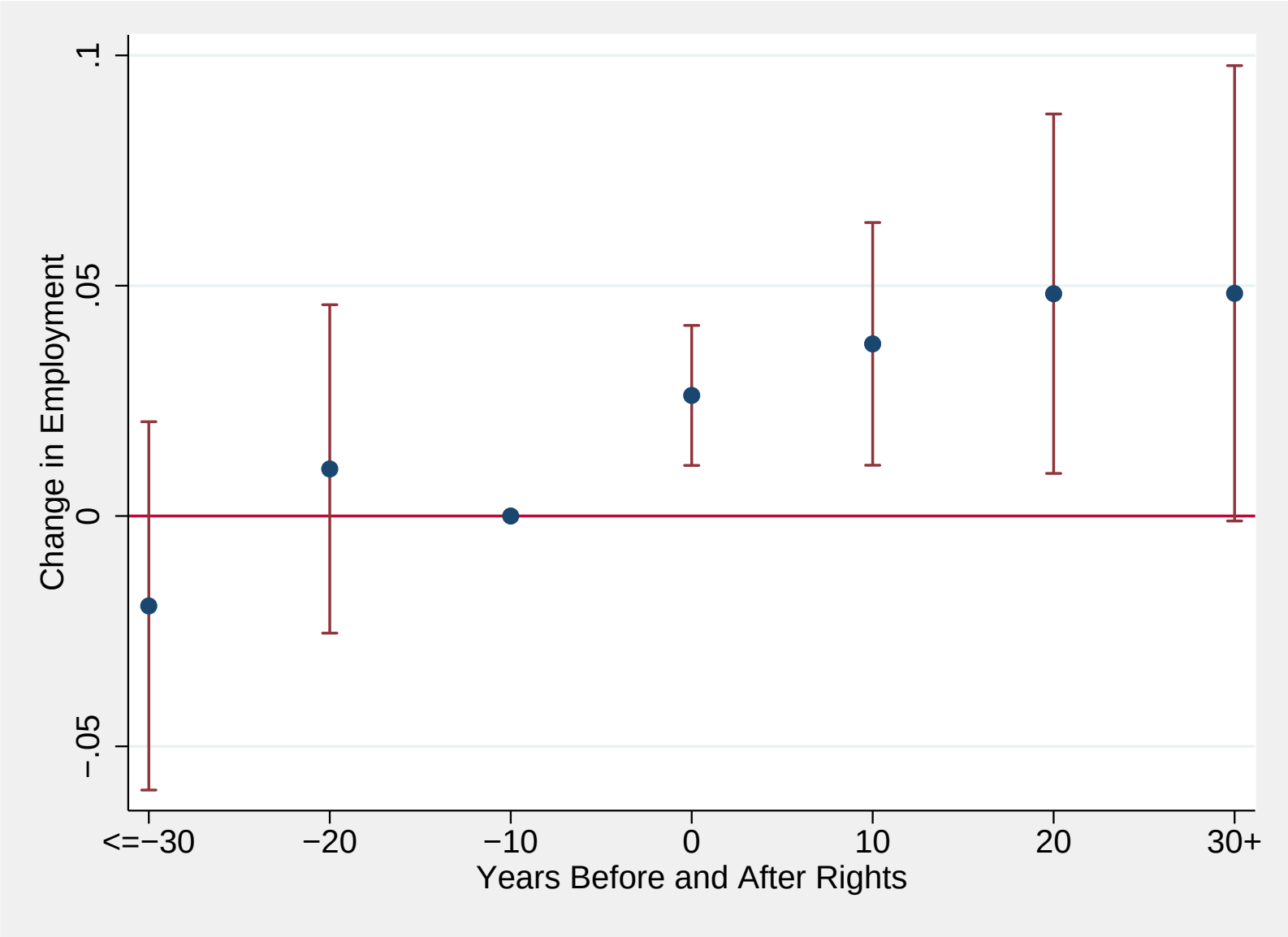

Figure H.13: Dynamics of Non-Agricultural Employment, Before and After Rights.
Point estimates and 95% confidence intervals

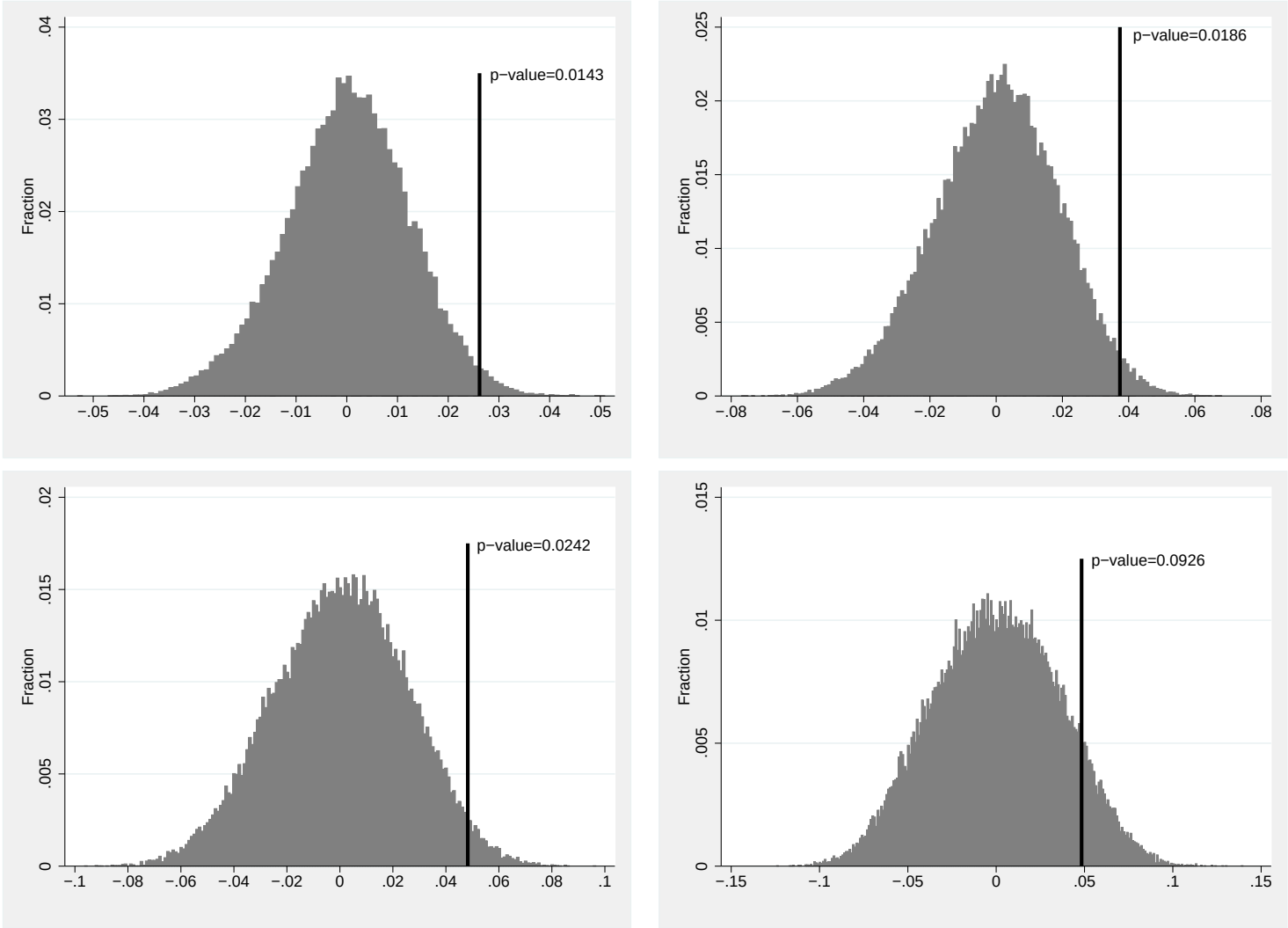

Figure H.14: Results of 50,000 simulations of randomly assigned women's liberation dates. The top left corner shows results for α_0; the top right corner shows results for α_{10}; the bottom left corner shows results for α_{20}; and the bottom right corner shows results for α_{30+}.

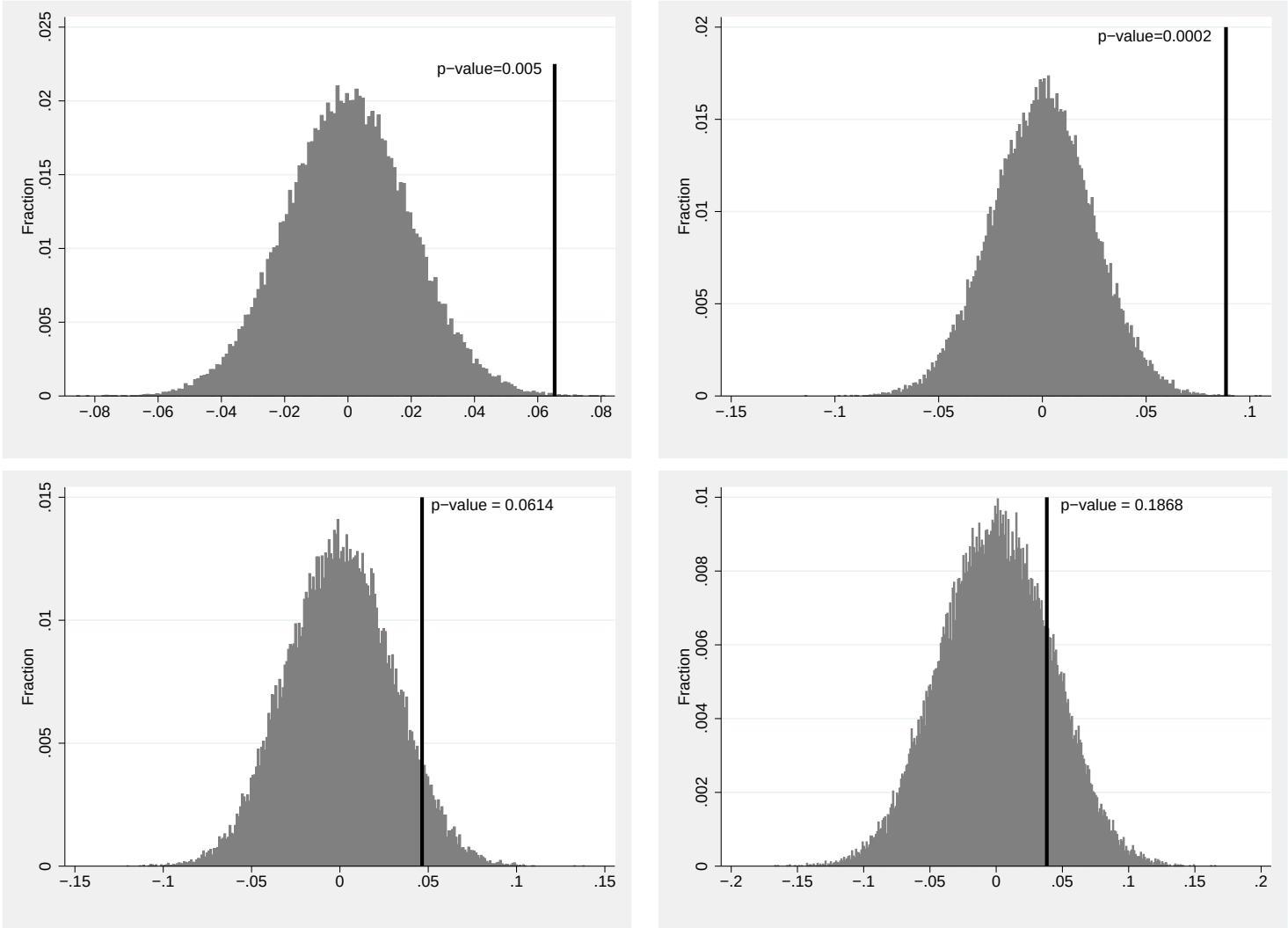

Figure H.15: Results of 50,000 simulations of randomly assigned women's liberation dates, border analysis of labor allocations. The top left corner shows results for α_0; the top right corner shows results for α_{10}; the bottom left corner shows results for α_{20}; and the bottom right corner shows results for α_{30+}.

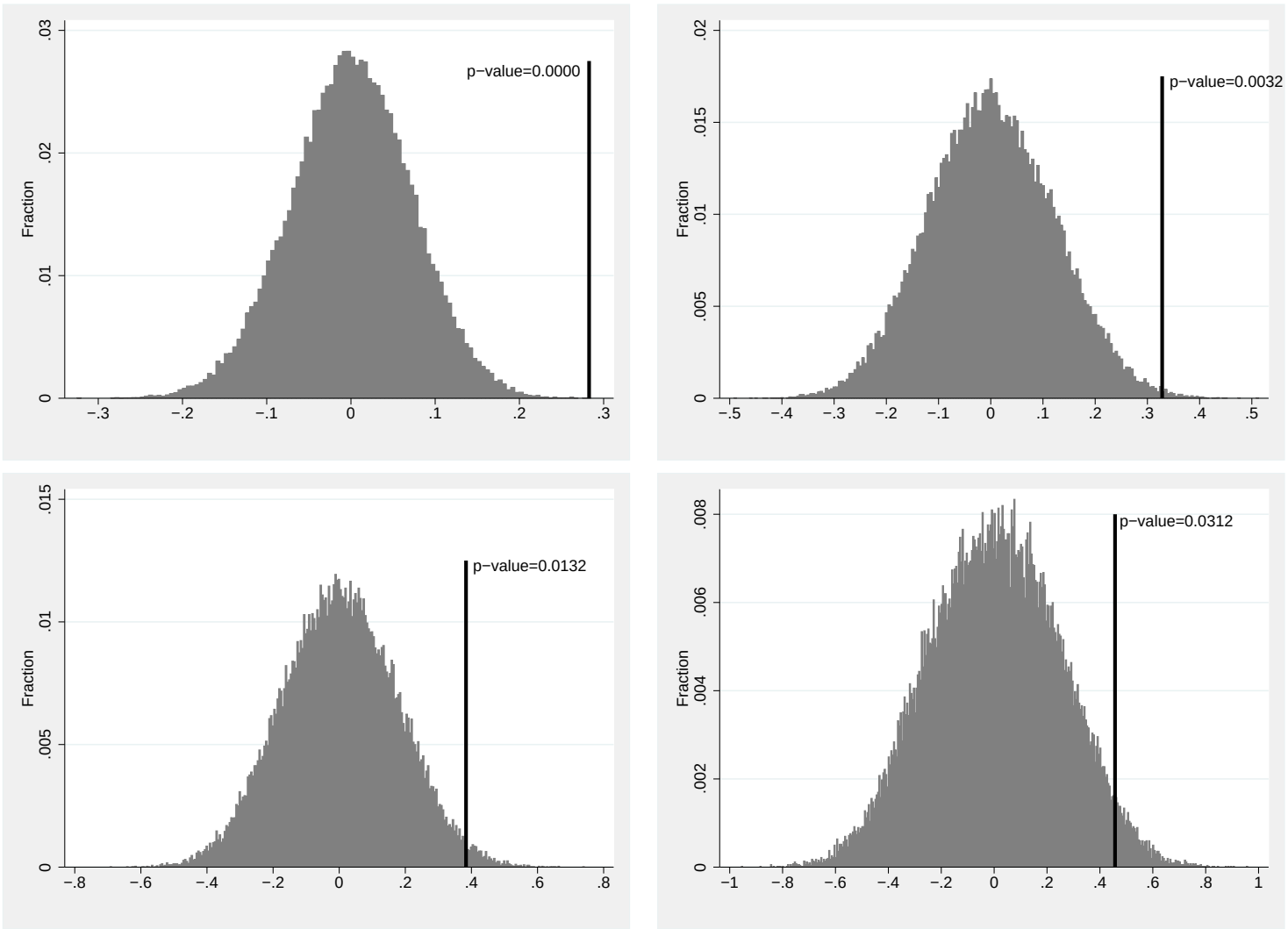

Figure H.16: Results of 50,000 simulations of randomly assigned women's liberation dates on the log of the fraction of employment in the most capital intensive industries. The top left corner shows results for α_0; the top right corner shows results for α_{10}; the bottom left corner shows results for α_{20}; and the bottom right corner shows results for α_{30+}.

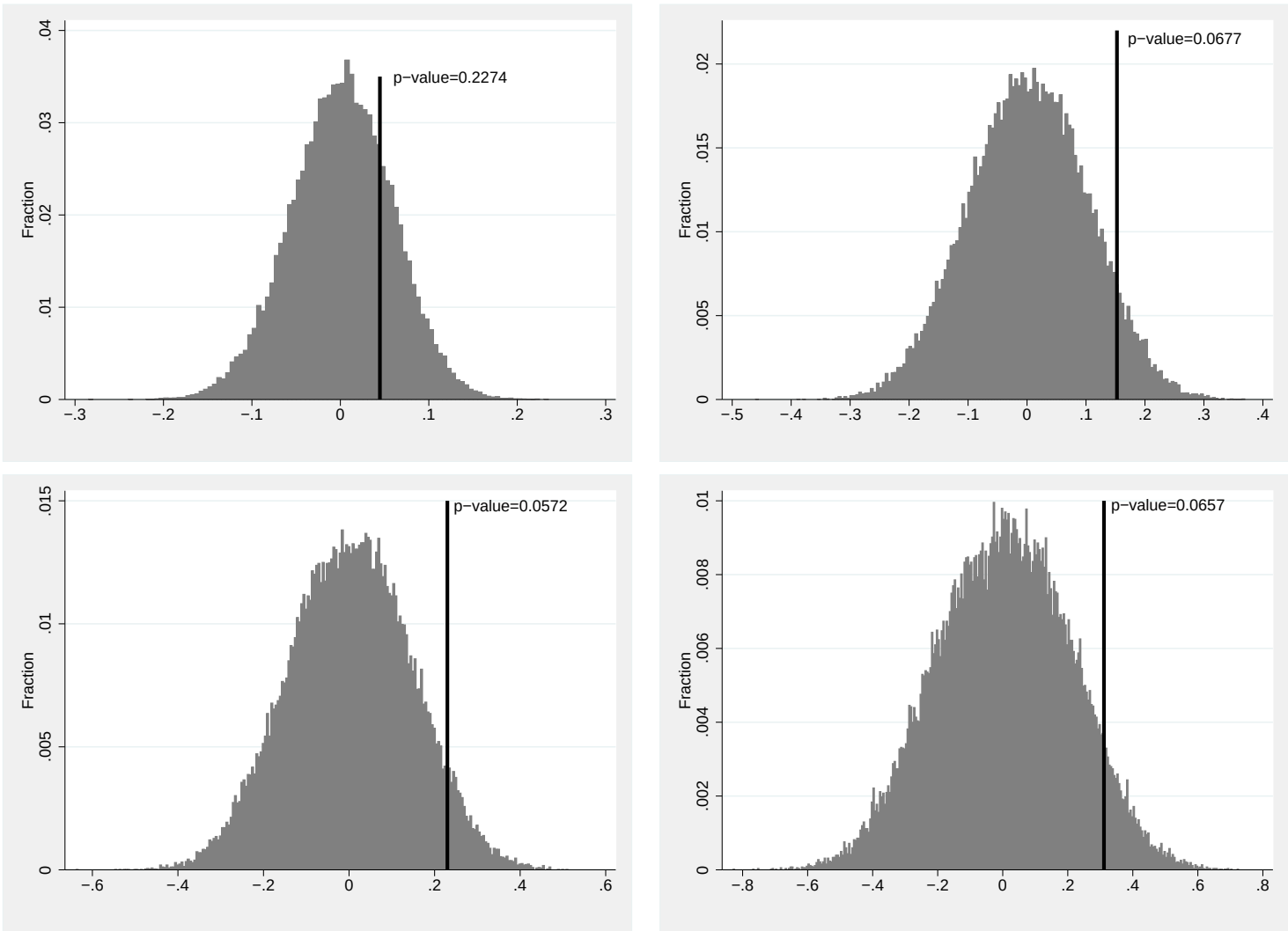

Figure H.17: Results of 50,000 simulations of randomly assigned women's liberation dates on the log of the fraction of employment in the least capital intensive industries. The top left corner shows results for α_0; the top right corner shows results for α_{10}; the bottom left corner shows results for α_{20}; and the bottom right corner shows results for α_{30+}.

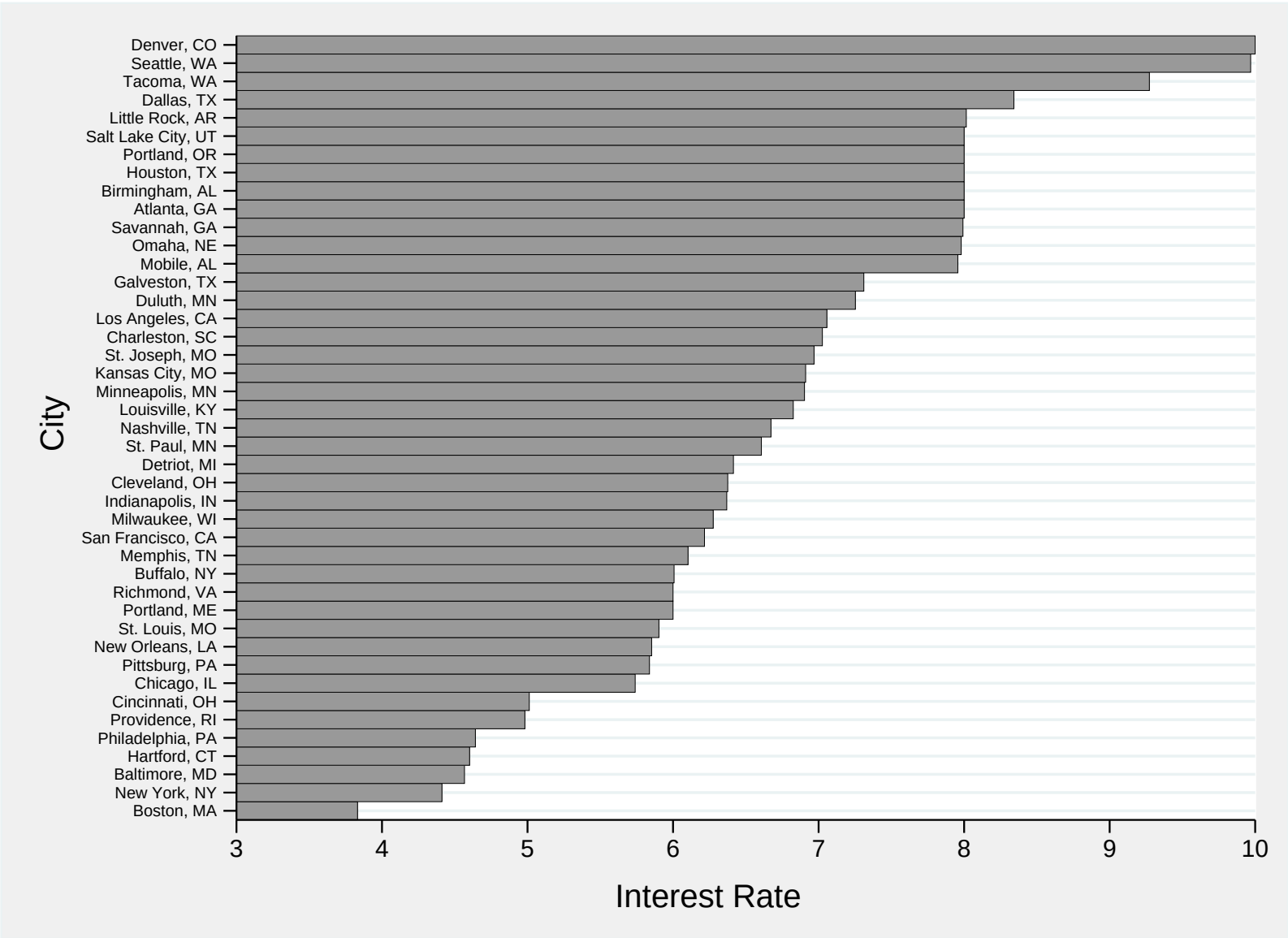

Figure H.18: Dispersion of Interest Rates, 1893-1897. Source: Breckenridge (1898).

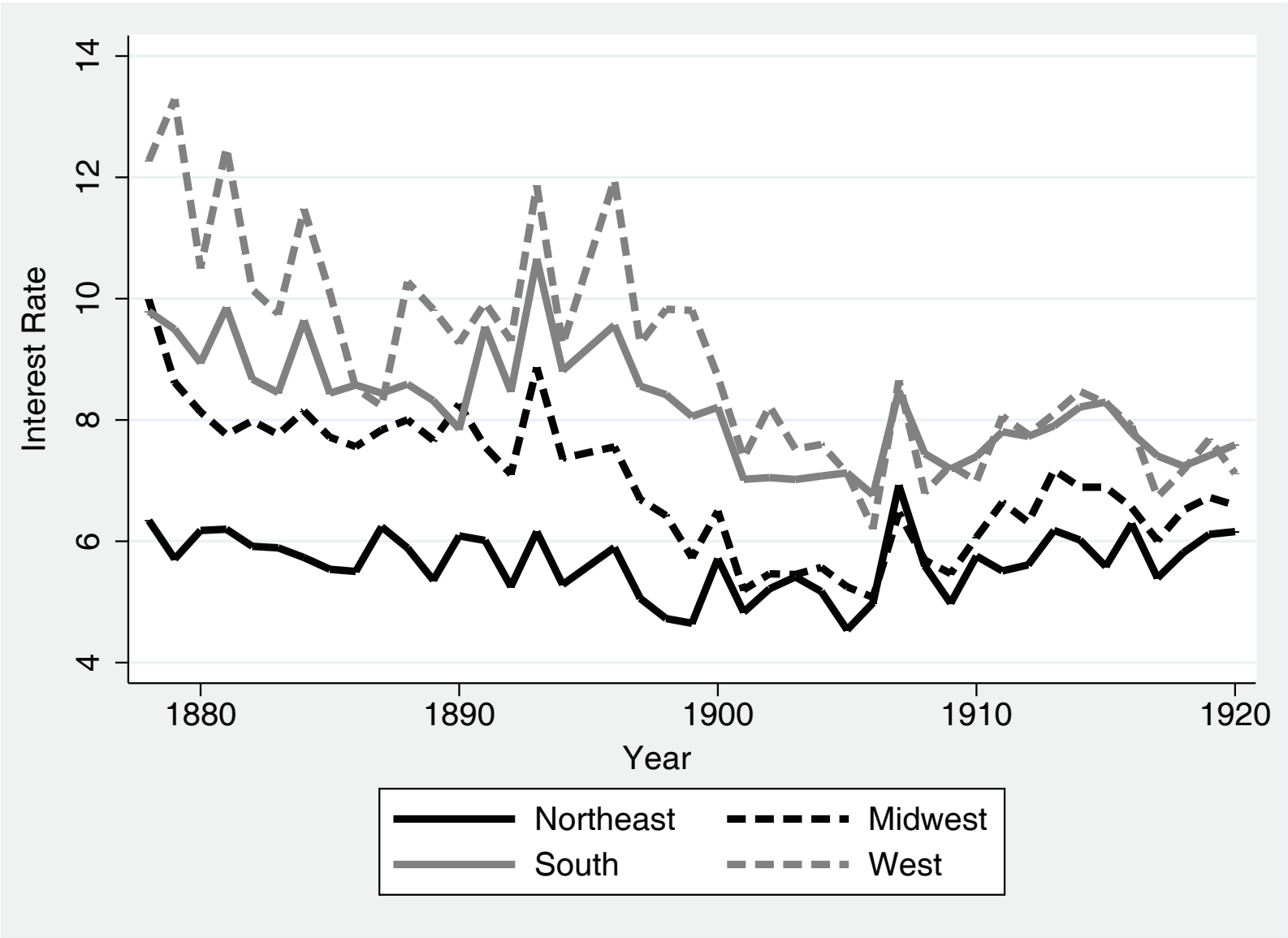

Figure H.19: Cross Region Variation in Interest Rates