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LANDED INTERESTS AND FINANCIAL UNDERDEVELOPMENT IN THE UNITED STATES

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ABSTRACT

Landed elites in the United States in the early decades of the twentieth century played a significant role in restricting the development of finance. States that had higher land concentration passed more restrictive banking legislation. At the county level, counties with very concentrated land holdings tended to have disproportionately fewer banks per capita. Banks were especially scarce both when landed elites' incentive to suppress finance, as well as their ability to exercise local influence, was higher. Finally, the resulting financial underdevelopment was negatively correlated with subsequent manufacturing growth. We draw lessons from this episode for understanding economic development.

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What are the factors that cause differences in the development of the financial sector across the world? Some researchers have emphasized elevated demand such as the need for war finance, others the political institutions a country develops, others the origins of a country's legal system, and yet others the constituencies or interest groups that emerge in a country.[2] Many of these theories have been tested using cross-country data. The problem, though, is that the causal factors are so closely intertwined at the country level that it is hard to tell them apart.

One way to make progress is to look within a country, across regions. By holding political institutions and legal institutions relatively constant, we can focus attention on factors that vary across regions, specifically, constituencies or interest groups. While such a focus will tell us little about the importance of broad political institutions or legal origins on financial development, it can tell us a lot about the importance of the role of local constituencies.

In this paper, we explore how the structure of banking across counties in the United States was shaped in the early part of the twentieth century by local agricultural interests. We focus on banks because they were, and in many areas, still are, the most important source of local finance. Likewise, we focus on the influence of agricultural interests because agriculture was still a key sector at that time in the U.S. economy, and agricultural interests

[2] On the importance of war for finance (and vice versa), see, for example, Brewer (1989) and Peach (1941), on the origins of finance in political development, see, for example, North and Weingast (1989), on the legal origins of finance, see La Porta, Lopez de Silanes, Shleifer and Vishny (1997, 1998), and on the role of constituencies or interest groups, see, for example, Benmelech and Moskowitz (2006), Bordo and Rousseau (2006), Haber and Perotti (2007), Haber (2005a,b), Morck, Wolfenzon, and Yeung (2006), Pagano and Volpin (2005), Perotti and Von Thadden (2006), Rajan and Zingales (2003a, b), and Sylla (2005).

were a powerful political constituency (Stock (1994)[3]. In addition, we believe we can isolate exogenous factors that determined the nature of agricultural interests.

Specifically, counties varied in the extent to which land holdings were concentrated or widely distributed. In part, the distribution of land holdings was driven by rainfall, with large-scale plantation-like agriculture being favored in areas with high rainfall, and small scale farming in areas with moderate rainfall. Therefore, in some counties, a few large farmers held much of the land, while in other counties land was widely dispersed among many smaller farmers. Large, wealthier landowners might have had specific interests vis a vis bank structure, and the economic and political power to implement those interests, so we might expect to see a correlation between the concentration of land ownership and banking structure.

What kind of structures might powerful landowners favor? Given their economic power, they typically had significant interests in the local bank as well as the local store (see, for example, Ransom and Sutch (1972), Wiener (1975)). Clearly, they would prefer to limit competition from other banks, especially large out-of-state ones. Furthermore, to the extent that small farmers and tenant farmers in the area had to buy on credit, the landlord's local monopoly over credit would force these small farmers to buy from the landlord-controlled store at exorbitant prices.[4] In other parts of the country, claims of rent extraction also

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[3] In addition to banking and finance, the influence of agricultural interests extended across a range of policies during this period, including federal tariff and transportation policies, as well as anti trust legislation and fiscal policy (Sanders (1999)).

[4] Ransom and Sutch (1972, p123) detail the methods used by large Southern landowners, who typically were also merchants, to manipulate the supply of credit in order to extract rents from small farmers—the peonage system. For instance, "The merchant established two sets of prices or cash prices and credit prices. The cash price applied only if the goods were paid for when received. The credit price was always substantially above the cash price, thus assuring the merchant a rate of return on his loan. The farmer, for his part, had little choice. By the middle of the growing season he was invariably out of cash, and therefore had to charge his purchases."

coincided with concentrated control of the local banking system. [5] Such control was often detrimental. For example, large landowners controlled much of Florida's banking system during the 1920s, and their attempts to channel credit into real estate, often by bribing state regulators, contributed to Florida's banking crash of 1926 [Vickers (1994)].

Even if the landlord did not directly own the local bank, given his own wealth and creditworthiness he might benefit if access to finance was made difficult for others – through limitations on bank competition and restrictive laws on pledging collateral or charging interest (see later). He would then enjoy a competitive advantage, for instance by being able to buy land cheaply when small farmers were hit by adversity, or having privileged access to loans in the midst of a prolonged drought. He might also prevent the emergence of alternative centers of economic power and status, such as manufacturers, by limiting their access to finance [Chapman (1934)].

Along these lines, Calomiris and Ramirez (2004) argue that unit banking laws (that is, laws preventing in-state banks from opening multiple branches, and out-of-state banks from entering the state) provided large farmers with insurance during periods of agricultural distress. Specifically, large national banks or state banks with branches could more easily foreclose on loans and transfer capital to less distressed areas. By preventing such reallocation, unit banking laws provided borrowers insurance. Of course, wealthier farmers

[5] In North Dakota for example, banking reform was a key platform of the Socialist/Populist party. And after winning the 1916 gubernatorial race with the help of small farmers, the party created the United States' first state owned bank, the Bank of North Dakota. The bank's charter begins: "Nor is it strange that under these conditions private interests sometimes take advantage of the needs of the people to keep down the prices of farm products, and exorbitantly to advance the prices of the things the farmers had to buy and the rates of interest for farm loans…the only permanent remedy lay in state ownership and control of market and credit facilities [Bank of North Dakota (1920), Lipset (1951)].

would benefit more from keeping capital “in-house”, and Calomiris and Ramirez indeed find more restrictions in states with greater farm wealth.

In all this discussion, large land owners benefit through their control over finance if there are many small landowners to squeeze or deprive, but not if all land owners are large. Hence what matters in the discussion that follows is the concentration of land holding, not the average size of land holdings.

It is, of course, possible to argue that instead of focusing on preserving his share of a small local pie by limiting bank competition and access, the large landowner might have been better off increasing the size of the local pie, even if his share were diminished. For instance, greater access to finance would draw more potential buyers into the land market, allowing the value of his own land to appreciate. Therefore whether concentrated land ownership leads to a more constrained financial sector and less financial access is an empirical question, which we attempt to answer.

To preview our results, the answer to the above question is indeed that landed interests appeared to be an important influence in constraining bank competition and thus limiting access to finance. We provide a variety of tests showing that their impact was most pronounced in situations where they had the greatest incentive and ability to exert influence. We also argue that our results cannot be easily explained as resulting from the supply of banking services responding to the underlying demand. Finally, we show these constraints on financial development persisted long after the interest groups driving them faded away.

While our paper is on financial development, it has broader implications. A recent trend in explaining the underdevelopment of nations has been to attribute it to the historical weakness in their political institutions such as democracy and constitutional checks-andbalances (see, for example, the literature emanating from North (1990) and North and Weingast (1989)). While U.S. political institutions in the 1920s were far from perfect, they were also far from the coercive political structures that are typically held responsible for persistent underdevelopment. Yet even in the United States, we find large variations in the development of enabling economic institutions such as banking between areas that had different constituencies but were under the same political structures. The significant, and potentially adverse, influence of constituencies even in such environments suggests that fixing political institutions alone cannot be a panacea for the problem of underdevelopment.

I. LANDED INTERESTS AND STATE LAWS

As motivation, it is useful to start with seemingly inefficient state laws governing banking, on which there is a large literature. In the United States, historical political battles, such as the one between Andrew Jackson and the Second Bank of the United States, led to more limited federal involvement in banking. As a result, the system was highly decentralized—effectively 48 different banking systems (Lamoreaux and Rosenthal (2005)). Economic efficiency would suggest that each system should have been tailored to the needs of the local economy. Yet some of the observed choices seemed sub-optimal.

A. Branching regulation

For example, branch banking—that is, allowing a single bank to operate many branches spread over the state—should have led to a more efficient and stable financial system, as banks would have been better able to reap scale economies, diversify the risks of the local economy, and offer wider credit access to the population (Ramirez (2003), Carlson and Mitchener (2006)). Yet, only 16 states allowed branching in 1920 (Deheja and Lleras-Muney (2007)).

Clearly, there was hysteresis in banking structures. For example, once unit banks were in place, branching was perceived as a threat, for it would have allowed bigger urban banks to compete in rural areas, threatening the rents of small rural unit banks. As a result, unit banks formed associations, or joined hands with state regulators, to oppose branching (White (1982)). Furthermore, Economides, Palia, and Hubbard (1996) show that states with unit banking pushed for federal branching restrictions on national banks and for federal deposit insurance (which particularly favored small unit banks), suggesting that unit banks had political power in those states.

But this begs the question of why some states chose in the first place to have no branching, while others allowed it. Sylla et al. (1987) argue that taxes on bank profits and dividends were an important source of state revenue. By preventing out-of-state entry, states could extract more taxes from the protected in-state banks. Kroszner and Strahan (1999) emphasize the added revenue that each in-state bank could obtain if it enjoyed a local monopoly, and suggest that this accounted for the limits on branching by even in-state banks.

These arguments, however, apply to all states. Why did some states go in for unit banking and others not? Moreover, if revenue was the primary objective, could they have not chosen a less distortionary means than creating monopolies and then taxing them heavily? Did states that chose unit banking have few other revenue options?

Our explanation of why some states chose to impose more restrictions on their banks is a "bottom-up" view, where local (that is, county-level) preferences for restrictions aggregated up to a state level preference. While this is not inconsistent with state-level rationales for restrictions, it does add an additional facet to the study of the political economy of state regulations. Specifically, we hypothesize that the large landowners' influence over the local financial system would have been made easier, in part, by legal branching restrictions, which prevented national banks and large state banks from entering local markets.

Our measure for the concentration of land holdings is based on the distribution of farm sizes (data are available for each of the decennial census years 1890-1930) (see also Ramcharan (2007)). The data are collected by the U.S. Census Bureau at the county level; some specifications aggregate up to the state level. The US Census provides information on the number of farms falling within particular acreage categories or bins, ranging from 20-49 acres up to 1000 acres. Using the midpoint of each bin, we construct the Gini coefficient to summarize the farm acreage data. The Gini coefficient is a measure of concentration that lies between 0 and 1, and higher values indicate that larger farms account for a greater proportion of total agricultural land—that the ownership of agricultural wealth is unequally distributed, and skewed towards large farms.

In the 1920s, the average Gini coefficient of a county is 0.426, the maximum is 0.836 the minimum is 0.017, and the standard deviation 0.101 (see Table 1 for definitions and Tables 2 and 3 for summary statistics). In Figure 1, we plot the regional variation in the data . Even in the South, which generally had higher levels of land concentration, there was significant heterogeneity among counties.

The dependent variable in columns 1 and 2 of Table 4 is a binary variable equaling one if a state permitted branching in a particular year. We collect the data for the years 1900-1930 (see Dehejia and Lleras Muney (2007)). Using a simple linear probability model, we measure the effect of land concentration (aggregated up to the state level ---described in Table 1) on the probability that a state permitted state wide bank branching. We include state fixed effects, year indicators, and cluster standard errors at the state level. The simple linear probability model in Table 4 column 1 suggests that a one standard deviation increase in land concentration at the state level is associated with a 0.16 decrease in the probability of observing laws permitting branching. Conditioning on demographic, economic and political variables does not significantly change this estimate (Table 4 column 2).

B. Usury Laws

A less well-studied method of constraining credit is through usury laws. Low ceilings on interest rates make it difficult to charge rates that allow a lender to break even on high-risk credits. As a result, only the rich with unimpeachable creditworthiness will be able to borrow when usury ceilings are low. Benmelech and Moskowitz (2007) collect data on usury ceilings across the United States ending in the late nineteenth century and indeed find that usury limits do adversely affect lending activity. They also find that the strictness of usury laws increases with the extent that other groups are excluded from political activity, suggesting that usury laws are a form of economic exclusion.

We have data on land concentration in 1890 while Benmelech and Moskowitz have data on state usury laws in 1890. Marrying the data they collected, and were kind enough to share, with our data on land concentration, we find in Table 4 column 3 that land concentration in 1890 is negatively and significantly correlated with the interest rate ceiling imposed by usury laws in 1890, and the estimate increases in magnitude with the addition of obvious controls.[6]

[6] To deal with situations where a state has no ceiling, Benmelech and Moskowitz impose a rate that is the average for all states in 1890 plus 5 percentage points. We follow their convention.

In sum then, it does appear that concentrated land holdings at the state level are correlated with laws restricting the development and availability of finance. This suggestive evidence motivates our deeper look at county level evidence.

II. LANDED INTERESTS AND COUNTY-LEVEL BANK STRUCTURE: THE BASIC TEST

We turn now to county level data on land inequality from 1890-1930 to help measure the impact of the concentration of agricultural wealth on the various indicators of banking structure. The state-level results suggest that state-level banking legislation was framed to restrict financial sector development and limit access to finance in states where land holdings were more concentrated. Clearly, landowners may also have had the ability to frame welcoming or restrictive local legislation, as well as the local economic clout that allowed them to direct, or withhold business. For example, to finance production until harvest, small tenant farmers often used their crops as collateral. To the extent that local sheriffs treated the lien of landowners as superior to other claimants in the case of default, it would restrict the ability of tenant farmers to access outside sources of finance [Vann Woodward (1951), Weiner (1975)].

Moreover, to the extent the sheriff enforced some bank claims more willingly than others, and to the extent that landowners used their power to direct business to some banks and not others, local powers could also alter the structure of banking. Thus we hypothesize that, correcting for state effects, the greater the power of local landed interests, as proxied for by the degree of land concentration in a county, the greater their ability to pass local regulation or direct local business, and thus the greater their ability to shape the structure of banking in the county.

A. Banking density and concentration

One measure of bank structure is to simply count the number of banks in a county, normalized by the number of people in, or area of, the county. The Federal Deposit Insurance Corporation (FDIC) provides county level data on the number of state and nationally chartered active banks in the county, beginning in 1920. The box plot in Figure 2 indicates high levels of banking density in the upper Mid West, but reveals substantial variation even among Southern counties.

We begin by examining the relationship between the density of banks in a county and the concentration of land holdings. Bank density is an informative measure of access to finance at the county level during this period (Evanoff (1988)). Distance was an important factor in economic activity at this time, as Federal involvement in road construction had not yet begun, road transport networks were relatively primitive, and automobile use was still limited (Baum-Snow(2006), Ramcharan (2008)). And during this period, policy debates on the availability of credit often revolved around the geographic proximity of banks, as access to financial services were more restricted in counties with limited banking density (Cartinhour and Westferfield(1980)) [7].

The dependent variable in Column 1 in Table 5a is the number of banks per capita in a county in 1920. The explanatory variables are the land concentration index for the county and state dummy variables. To this parsimonious specification, we also include a number of geographic controls including the county area, and its distance from various waterways. Waterways were centers of economic activity, with some of particular relevance to

[7] Like the US during the sample period, bank density remains an important measure of access to financial services in many developing countries today because of their limited transport networks. In these countries, density significantly predicts credit usage by firms and households (Beck et. al (2007)).

agriculture. Including these variables help control for plausibly exogenous determinants of a county's prosperity and the kind of economic activity it might undertake. For instance, waterways such as the Great Lakes in the upper mid west, and the Atlantic Ocean along the East coast helped spur industrialization and demand for financial services in those regions (Pred (1966)). In the estimates that follow, we correct standard errors for possible correlation between proximate counties.[8]

The coefficient estimate of concentration in the OLS regression is negative and strongly statistically significant (at the 1 percent level). A one standard deviation increase in land inequality is associated with a 0.27 standard deviation decline in the per capita number of banks circa 1920. In Column 2, we repeat the same exercise for 1930 and again find a negative and statistically significant coefficient estimate for land concentration that is similar in magnitude to the 1920 result. Most interesting, the coefficient is also negative and significant at the one percent level in a fixed effects regression where we pool both crossections, and control for unobserved county specific time invariant characteristics (column 3). The estimated impact of concentration in the fixed effect estimate is about 70 percent larger than the 1920 OLS results, suggesting that increases in land concentration seem negatively correlated with increases in bank density.

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[8] Nearby counties may share similar unobserved features—histories or cultural characteristics for example—that shape banking density. As a result, the correlation in the error term between county i and county j may be proportional to the distance between the two counties. We thus follow Conley [1998] and Rappaport [1999] and assume a spatial structure to the error covariance matrix. Specifically, for county pairs further than 150 kilometers apart—measured as the distance between the counties' geographic center-- we assume independence. Meanwhile, for county pairs less than 150 km apart, we use quadratic weighting:

$$E\left(\varepsilon_i \varepsilon_j\right) = \left[1 - \left(\frac{distance_{ij}}{150}\right)^2\right]\rho_{ij}$$

$$\widehat{\rho_{ij}} = e_i e_j$$

Before making too much of this, we should recognize that there are potential biases in the estimated coefficient. Well known theoretical arguments predict that economic inequality can itself be shaped by credit availability and other forms of asset market incompleteness (Aghion and Bolton (1997), Bannerjee and Newman (1991), Galor and Zeira (1993)), making reverse causality a likely feature of the data. More banks for example might mean more credit availability, allowing more people to buy farms, and reducing concentration. However, the biases could go in either direction. More competition amongst banks may mean weaker relationships between banks and farmers, and could lead to greater foreclosures of marginal farmers in times of distress, leading to greater land concentration (see Calomiris and Ramirez (2004) or Petersen and Rajan (1995)). The larger county fixed effects results suggests that this direction is plausible, and to better correct for such reverse causality, we turn to instrumental variables.

B. Instrumental Variables Estimates

A large literature in agricultural economics suggests that land concentration in the United States is related to rainfall patterns (Ackerman and Harris (1946), Gardner (2002), Heady (1952), Tomich et. al (1995)). The underlying logic rests on the idea that given the technologies of the period, crops suited for plantation agriculture such as sugar cane, tobacco and rice thrived in warmer counties with regular and heavy rainfall. By contrast, grain—wheat and barley—which are better suited to more temperate climates, also exhibited fewer economies of scale. Virginia tobacco for example requires rainfall between 23 to 31 inches per annum, while Nebraska wheat usually thrives in regions that receive between 14 to 21 inches of rain per annum (Seitz (1948), Myers (1940)).

Thus, even within states, more arid counties—the Piedmont region of central Virginia for example—may have had a more equitable distribution of farm sizes because of their suitability for grain production. Engerman and Sokoloff (2002) also employ a similar argument to explain the role of geographic endowments in shaping historic cross country differences in land inequality across North and South America. And using US census data as early as 1860, Vollrath (2006) provides evidence consistent with the role of geographic endowments in shaping land inequality across a sample of US counties.

In the first column of Table 5b, therefore, we present estimates for a first stage where the dependent variable is land concentration in 1920 and the explanatory variables are the mean rainfall in the county computed over the last century, state dummies, and the geographical variables. The coefficient estimate on mean rainfall is positive and statistically significant at the one percent level, consistent with the literature. The second stage IV estimates are reported in Table 5a, column 4. The coefficient on instrumented concentration is negative and again statistically significant at the one percent level. As with the fixed effects results, the IV coefficient is larger in magnitude than in the OLS regression, suggesting the OLS estimate is biased towards zero. In this case, a standard deviation increase in land concentration reduces the number of banks per capita by about one standard deviation.

C. Basic Concern with Specification

There is the concern, of course, that land concentration might proxy for some omitted variable that is also correlated with the number of banks per capita. In particular, a poor, low skilled population, as well as the very young, might not have the ability to farm land independently and might also be an unattractive target market for banks. We should also account for the possibility of discrimination, both in terms of blacks not having access to education, and in terms of their being denied access to financial services (see Ransom and Sutch 1972). Therefore, we include as additional controls the fraction of the county population that is illiterate, the fraction that is black, and the fraction that is young. Moreover, because banking density might be directly affected by the size and spatial distribution of the population, we include – the log population, as well as the fraction of the population that is urban (reflecting the degree to which population is unevenly distributed across the county). For instance, the more urban the population, the more the population is crowded in a few areas, and the fewer the bank offices needed to service them.

Of course, these demographic controls are arguably less exogenous than the geographic controls we included earlier. Nevertheless, it is heartening that in column 5 in Table 5a the coefficient estimate of concentration in the IV regression is negative, strongly statistically significant, and indeed a little larger in magnitude with these additional controls than the coefficient estimated in column 4. This suggests that concentration does not proxy for these controls. This will be our baseline regression. In what follows, we conduct some additional robustness checks.

In Table 6 column 1, the dependent variable is banks per capita in 1930, and we estimate the IV regression with the full panoply of geographic and demographic controls. The coefficient estimate for land concentration is again negative and strongly statistically significant. In Table 6 column 2, the dependent variable is a different measure of bank density, banks per square kilometer in 1920. Geographic and demographic controls are likely to be important here. Again, however, we find the coefficient of instrumented land concentration is negative and strongly statistically significant.

One concern may be that a county with uniformly large farms will have a low Gini. While this is not inconsistent with some elements of our thesis (there is no need to repress finance if there are no small farmers/tenants to exploit), it is important to check that this does not drive our results. Therefore, we recalculate the Gini coefficient using only those counties with farm sizes in all bin categories—we are left with about 55 percent of the sample of counties. The coefficient estimates for the Gini are, however, qualitatively similar, and are available upon request.

Moving on to other concerns, perhaps land concentration is higher where agricultural output and the demand for finance is lower, either because of the nature of the workforce or the poor quality of the land. We already have some controls for the nature of the workforce in the county, but including the value of crops divided by the farm population in the county as an explanatory variable helps to directly capture the variation in agricultural income across counties.

We lose some observations, and the estimated standard errors are higher, but the coefficient estimate for land concentration is still negative and statistically significant in Table 6 column 3, and similar in magnitude to the baseline. Instead of income, we control in column 4 for the value of agricultural wealth by including the average value of farm land in county. The estimated impact of land concentration remains negative and significant.

We can also estimate the "reduced form" specification, including mean rainfall instead of land concentration. The estimated coefficient is consistent with the pattern of correlations in first and second stages, and is also robust to variables that control for the demand for finance. After including both per capita income and wealth, as well as the panoply of demographic and geophysical variables, we find counties with higher rainfall--

associated with greater concentration in the first stage—also have fewer banks per capita (column 5).

Finally, we should note that much of the increase in the number of banks occurred after 1890, as federal and state authorities competed to weaken chartering requirements, capital requirements, reserve requirements, and portfolio restrictions in order to attract more banks into their system (White (1982)). The number of state banks grew from 2534 in 1890 to 14512 in 1914 while the number of national banks grew from 3484 to 7518. Therefore a significant part of bank structure evolved post 1890. Land inequality in 1890 thus predates much of the structural change, and could also be a plausible instrument for land concentration in 1920.[9] We find that replacing the rainfall instrument in the basic specification in Table 5 column 5 with land inequality in 1890, the coefficient estimate of instrumented land inequality in 1920 (see Table 6 column 6) is negative and highly significant. Predetermination does not, however, imply the instrument satisfies the exclusion restriction. As a result, we will use the rainfall instrument as our baseline because we are more confident that it is plausibly exogenous.

D. Land concentration as a proxy for demand side factors.

Clearly, an immediate concern is that land concentration proxies for factors that reflect the demand for finance. We have attempted to correct for those factors with right-hand side explanatory variables such as literacy and the value of agricultural land that reflect demand. But they may not fully correct for demand effects. In what follows, we attempt to tackle the demand issue more directly.

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[9] Inequality in 1890 may reflect more than weather patterns -- geographic factors (e.g., mountainous versus plains) as well as historic Federal policies may have also helped determine land distribution. For example, the Homestead Act of 1862, which gave 160 acres of farm land for a nominal $18 fee to help settle the Mid West, created a relatively equal distribution of land in that region that persisted until the 1930s (Everett (1970)).

Human Capital

In addition to finance, the landed elite may have sought control over other local policies, including the suppresion of public goods such as education (Galor et. al (2008), and Ramcharan (2007)). And rather than reflecting the direct influence of land concentration on local banking structures, these results might indirectly reflect the success of these groups in limiting human capital investment, and thus, the demand for finance. The baseline specification already controls for illiteracy, but in column 1 of Table 7, we also include the per capita education expenditures in the county--available only for 1930. The coefficient on land concentration remains qualitatively similar to the baseline (Table 6A, column (i)).

Crops

The potential connection between farm sizes, cash crops and the demand for finance could also bias our results. But in this case, the bias could well be against our finding the results we observe. Unlike subsistence farming, cash crops such as wheat and other grains, as well as tobacco, and cotton often required external sources of credit to finance seeds, and other inputs until harvest (Gardener (2003). They were also grown within a monoculture system, with prices that were more variable than other types of crops during this period (Bean (1931)). As a result, the demand for external sources of finance might be higher in counties that predominantly produced cash crops. And to the extent that cash crop production occurred where land was concentrated, the Gini coefficient is likely to be positively related to bank density.

Of course, because the scale of agriculture differed significantly across the different types of cash crops such as grains—primarily produced on smaller farm—versus plantation cash crops such as cotton and tobacco, any systematic relationship between cash crop production and land concentration is unlikely. But to assuage concerns about this potential demand channel, we include the value of plantation crops as a share of all crop values within the county in Table 7 column 2, as well as its square. We also include an interaction term to test whether the impact of land inequality on bank density might have depended on the share of plantation crops. There is no significant evidence of this potential demand side channel: both the linear and interaction terms are insignificant.

Spatial Distribution and Bankability

Even though we control for population, county area, and degree of urbanization, the spatial structure of farming might affect our results. One large farm might require one large bank, while many small farms might require many smaller banks, resulting in a negative correlation between bank density and land concentration that is unrelated to political economy motives. Thus, as a further check, we include the number of farms per capita in the county (column 3). In column 4, we go further and include the share of land area under operation by farms in each size bin. These land shares have the potential to mechanically absorb much of the explanatory power of the Gini for land concentration, and this coefficient declines by about 45 percent, but remains significant at the 1 percent level. There is also evidence of a significant relationship between some specific acreage sizes and bank density.

A somewhat different concern is bankability. Suppose only farmers above a certain size generate surpluses making them attractive to banks. Again, this should go against our finding the results we observe, but perhaps one could postulate some version of spatial distribution and bankability that could account for our results. This is again where the inclusion of the shares of different bin sizes should reassure the reader. Likewise, the absence of any monotonic relationship between farm sizes and banking also makes it unlikely that the spatial structure might be a source of bias.

The next section turns to more direct evidence to test the hypothesis that landed interests attempted to curtail the supply of financial services in order to extract rents. Were landed interests more favorable to the financiers they could control than to those they could not control? Were landed interests more inclined to assert their influence when the ostensible incentive to do so was higher? What if the channel through which they could control finance was suppressed? And were landed interests more assertive when their overall ability to exert influence was higher? This is what we turn to next.

III. THE INFLUENCE OF LANDED INTERESTS

A. National vs State Banks

The early years of the 20th century were years of fierce competition between federal and state regulatory authorities in a seeming race to the bottom (White (1982)). National banks were chartered by the Office of the Comptroller of Currency in Washington DC, while state banks were chartered by state authorities. As some of the banking scandals of the 1920s suggest, state chartered banks were easier for powerful landed interests to control than nationally chartered banks (see, for example, Vickers (1994))[10]. One would expect, therefore, that landed interests would discourage the spread of banks, but be particularly averse to the spread of national banks.

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[10] Politics and corruption in state bank chartering decisions well pre date the sample period. Bodenhorn (2002) for example documents the fight against corruption in bank chartering in New York State during the 1830s.

In Table 8 column 1, we report our baseline specification (that is, the specification in Table 5a, column 5), but with the dependent variable being the number of national banks per capita in 1920 . The coefficient on land concentration is negative and statistically significant, as is the coefficient in Table 8 column 2 where the dependent variable is the number of state banks per capita in 1920. Thus landed interests discouraged both types of banks, a reassuring finding. In Table 8 column 3, the dependent variable is the share of national banks to total banks in the county. The coefficient on land concentration is negative and significant – there are not just fewer banks of any kind but relatively fewer national banks in counties with concentrated landed interests. Note that by including state indicators, we control for any direct legislative impediments to the setting up of national banks in the state.

Finally, a caveat is in order in weighing this finding. Until the relaxation of the 1864 National Bank Act in 1913, national banks were barred from mortgage loans – that is, loans against land (Sylla (1969)). There is disagreement about the effectiveness of this restriction (Keehan and Smiley (1977)). Nevertheless, and despite the tremendous change in bank activity over this period, we cannot rule out the possibility that the past legal restrictions may have had some effect on national bank presence in 1920. One would certainly presume that counties with more urban populations would have a higher ratio of national banks and that is indeed the case, with the coefficient on share of urban population being positive and significant. It is much harder, though, after correcting for the share of urban population in the county, to attribute the finding that counties with relatively more concentrated land holdings have relatively fewer national banks in 1920 to historical legal restrictions.

B. Tenancy

Many of the arguments about the incentives of large land owners to limit access to finance revolve around tenancy. Land owners could negotiate lucrative share cropping contracts with heavily indebted tenants, especially where access to credit was limited. Also, because large farmers were usually owners while small farmers were tenants, in counties with high levels of tenancy a higher concentration in land holdings would likely reflect a more skewed distribution of economic and political power than in counties with low levels of tenancy. Thus landed interests would have both a greater interest and ability to limit finance in counties with greater tenancy.

To test this, in column 1 of Table 9, we interact the fraction of farms in the county operated by tenants with land concentration in the baseline regression, controlling directly for the impact of tenancy using both linear and quadratic terms. The interaction between land inequality and the share of tenant farms in the county is negative and significant at the one percent level. For a county at the 25th percentile level of tenancy in the sample, a one standard deviation increase in inequality is associated with about a 1.37 standard deviation decline in banking density. But for a county at the 50th percentile of tenancy, the impact is about 31 percent larger. Interestingly, the direct correlation of tenancy is positive. Evaluated around the median levels of concentration and tenancy, a standard deviation increase in tenancy is associated with a 0.05 standard deviation increase in the number of banks per capita. This is consistent with the view that tenants had a greater demand for finance and, absent the influence of landed interests, would have attracted more banks per capita.

Sharecropping and cash tenants

It is useful to distinguish between sharecroppers and cash tenants. Sharecroppers had so little ready cash that they contracted to pay a share of their output as rent. The implicit interest rates in these contracts were often as high as 150 percent, with nearly half of share tenants borrowing about 100 percent of their expected income from their share of the crop[11]. Thus, because the profitability of share cropping depended on the underdevelopment of the financial system, landed interests would have been more likely to oppose wider credit access in counties where share cropping was more common. Unlike sharecroppers, cash tenants owned their harvest, paying landlords a fixed cash rent up front. These tenants were typically better off since they were either able to self finance the rent and cost of farming or had pre-arranged sources of financing.

In column 2, we include an interaction between the fraction of farms operated by sharecroppers and land concentration, as well as the fraction of sharecroppers and the fraction of sharecroppers squared directly. In column 3, we do the same for the fraction of cash tenants. In column 2, for a county at the 25th percentile level of sharecropping in the sample, a one standard deviation increase in inequality is associated with about a 0.89 standard deviation decline in banking density. But for a county at the 50th percentile of sharecropping, the impact is about 18 percent larger. Interestingly, the direct effect of sharecropping measured at its mean is positive, suggesting that counties with greater sharecropping had, ceteris paribus, more demand for finance, and more banks per capita.

[11] Also, poor tenant farmers were often forced to buy seeds and tools from the land owner's store at inflated prices. And their persistent indebtedness to the land lord kept tenant farmers tethered to the land to help pay off old debts and taxes (Brogan (1994)).

In contrast to share croppers, the interaction term between concentration and the fraction of farms operated by cash tenants is positive. For a county at the 25th percentile level of cash tenancy in the sample, a one standard deviation increase in inequality is associated with about a 1.20 standard deviation decline in banking density. But for a county at the 50th percentile of cash tenancy, the impact is about 3 percent smaller.

In sum, the negative relationship between land concentration and banks per capital seems most pronounced in areas where there was likely to be the greatest demand for credit, and hence the greatest incentive for landed interests to control it.

C. Crop Lien Legislation

We have seen that crop lien laws were one of the principal tools that the landed elite used to restrict credit from banks and limit their business (Ransom and Sutch (1977, 2001), Van Woodward (1951)). These laws made the landlords' claims on tenants superior to other creditors, effectively preventing banks and merchants from lending to tenant farmers. Although such laws were deeply unpopular among small farmers, the landed elite used their political influence with legislatures throughout the South to enact them.

Texas, for a period, was an important exception. In part, because of different electoral rules that briefly allowed small farmers to elect a Populist governor, Texas was the only Southern state that actually passed legislation restricting the maximum liens that landlords could claim[12]. The legislation, passed in 1915, also limited the shares that landlords could negotiate in a share cropping contract--1/3 of the cotton crop and ¼ th of the grain (US

[12] The Progressive Movement was especially strong in the early 1900s in Texas, and the state passed the Terrell Act in 1905 which created a direct primary system, allowing voters rather than party elites to select the gubernatorial nominee in a direct election. This of course created a wave of populism and reforms, of which the 1915 law is an example. However, the legislature was still dominated by the landed elite, and they eventually impeached the Governor three years after the passage of the 1915 legislation (Newton and Gambrell (1935)).

Census (1940)). The Texas Supreme Court—appointed mainly by the landlord dominated legislature--eventually declared the law unconstitutional in 1929. Nevertheless, for a time, Texas' crop lien legislation would have imposed a less onerous barrier to bank entry in rural areas, implying the impact of land concentration on banking density in Texan counties would have been weaker compared to counties in other Southern states during our sample period.

In column 4 of Table 9, we restrict the baseline specification in 1920 to Southern counties, but allow the impact of land concentration on banking density to differ for Texan counties. The estimates are generally imprecise, and in 1920, five years after the law, the impact of land concentration on per capita banks does not appear to be significantly different in Texan counties. However, 15 years after the initial passage of the Texan legislation, the impact of concentration on per capita banks is significantly more muted in Texan counties compared to other Southern counties in the 1930 cross-section (column 5).

D. Relative Power of Landed Interests

Landed interests are likely to have had more influence on the structure of banking if they were a dominant economic power in the county. But this was a period when the manufacturing sector, an important consumer of financial services, was growing. It is reasonable to think that in counties where the economic power of the agricultural sector was offset by the power of the manufacturing sector, the effect of land concentration on bank structure would be weaker.

One measure of relative economic power is the ratio of the value of manufacturing output to the value of manufacturing and agriculture output. In Table 9 column 6, we include the interaction between manufacturing share and land concentration in our baseline regression, taking care to include manufacturing share and its square directly.

The estimates suggest that as the strength of manufacturing interests in a county increase, the adverse impact of land concentration on the per capita number of banks falls. The point estimates in column 6 suggest that for a county at the 25th percentile level of manufacturing share in the sample, a one standard deviation increase in inequality is associated with about a 1.40 standard deviation decline in banking density. But for a county at the 50th percentile of manufacturing share, the impact is about 14 percent smaller. Note that it is hard to argue that this reflects a greater demand for banking services in counties with more manufacturing share, because we control for the direct effects of manufacturing (through both linear and squared terms). Indeed, the direct effect is negative, consistent with the fact that agriculture was undergoing a boom till the early 1920s, and may have been a greater source of demand for banking services than manufacturing.

One way to check that we are picking up relative economic and political power is to replace the share of value added in manufacturing by the value added per capita by manufacturing in the county, which we do in column 7. This measure captures the strength of manufacturing in the county instead of its relative strength. While the interaction coefficient has the expected sign, it is no longer significant, and neither are the linear and squared terms. This suggests that it is not the strength of manufacturing per se, but the strength of manufacturing relative to agriculture that affects the power of landed interests.

E. Distance from State Capital

As we argued earlier, landed interests could influence state regulation to favor their private objectives. In most cases, state governors appointed the state bank commissioners, and politics often shaped chartering and regulatory decisions (Mitchener (2005))[13]. To the

[13] Using previously secret government documents, Vickers (1994) note for example that land developers often overcame chartering obstacles by bringing powerful politicians into banking deals. Land developers then used

extent that state power was important, one might expect at this time –when physical distance mattered greatly --that landed interests in counties that were physically closer to the political apparatus located in the state capital might have had greater influence on bank structure than landed interests that were further away. We thus allow the impact of land concentration to depend on the distance between the county seat and the state capital (calculated with US Census geographic data). The county's distance from the state capital also enters as a linear and quadratic term to absorb any direct impact on bank structure.

In column 1 of Table 10, there is some evidence in the overall sample of banks that concentration may have had a larger negative impact on banking in counties closer to the state capital. But consistent with the fact that state bank chartering and regulations were determined in state capitals, these results appear to be driven by state banks (column 2). At the state capital, a one standard deviation increase in land concentration is associated with a 1.8 standard deviation decline in bank density. This impact is about 20 percent smaller in counties located one standard deviation away from the capital.

By contrast, the Comptroller of Currency in Washington DC chartered and regulated national banks using a system of national bank examiners. One should not expect distance from the state capital to matter for national banks. Indeed, the distance interaction term in column 3, where the dependent variable is national banks per capita, is small and not different from zero.

IV. LAND CONCENTRATION AND GROWTH

Our main attempt in this paper has been to provide evidence suggesting that landed interests retarded the local development of banks. Of course, if this was detrimental and not

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bank deposits for unsecured personal loans for themselves, politicians, and bank regulators. These loans were rarely repaid.

consistent with the needs of the economy, it should have had adverse real effects. One could look at the effects of banking sector development on the agricultural sector, but this might be conflated with the direct effect of agricultural concentration on agricultural growth.

An alternative is to examine manufacturing growth. Clearly, this depends on financial sector development (see Rajan and Zingales (1998), for example). Equally clearly, it is unlikely to be directly affected by land concentration in the county. For reasons of space, we will only present suggestive facts, referring the reader to a more detailed investigation in Ramcharan and Rajan (2008b).

In Table 11 column 1, the dependent variable is real per capita manufacturing value added growth in the county between 1920 and 1930. The explanatory variables are land concentration in 1920, the initial share of real per capita value added in manufacturing in 1920 (to capture convergence effects), demographic and geographic controls, as well as state indicators (which capture between-state differences in manufacturing growth).

In addition to the hypothesized finance channel, land concentration might also affect manufacturing growth through the initial mix or scale of manufacturing industries. For instance, small scale manufacturing that relies on local agricultural inputs, such as agricultural processing plants, might have proliferated in more concentrated counties, and performed differently than larger enterprises over the 1920s. Thus, to control for this potential mechanism, we also proxy for the initial type or scale of manufacturing within the county by including the average horsepower employed in a manufacturing firm in 1920.[14]

The coefficient on land concentration is negative and strongly statistically significant. A one standard deviation increase in the land Gini in 1920 is associated with a 6.4 percentage

[14] Our results are qualitatively similar when we use only the baseline controls, excluding the average horsepower measure.

point decrease in growth (over the decade), which is 9.7 percent of the standard deviation in growth rates across counties. Of course, we are interested in the effect of land concentration working through the development of the banking sector. So in Table 11 column 2, we report IV estimates where we replace land concentration with banks per capita, instrumented with land concentration. The instrumented number of banks per capita has a positive and significant coefficient estimate, as expected.

One concern, of course, is that it may be that areas where land is very concentrated are also areas that are difficult for manufacturing to be set up. In the extreme, if there are only a few "accidental" manufacturing units in a county because of the hostility of the terrain, their growth is likely to be very low. One way to address this concern is to focus only on counties where there is a sizeable manufacturing presence already. In Table 11 column 3, we include county observations only if the share of manufacturing in total value added is above the median for all counties. Within this sub-sample of counties with a sizeable manufacturing presence, the coefficient estimate for instrumented bank concentration is even larger.[15]

Does the legacy of land concentration have an impact far into the future? If indeed areas with concentrated land holdings manage to restrain the spread of banking, and thereby constrain the growth of manufacture, then powerful landowners might have been able to project their power into the future, even though agriculture became relatively unimportant in most other areas of the United States.

[15] Finally, perhaps the right way to undertake this analysis is to also instrument land concentration. The problem with the required 3 SLS estimate is that it demands a lot of the data. Standard errors blow up and the coefficient on instrumented banks per capita is negative (but not statistically different from zero) when the instrument for land concentration in 1920 is rainfall. However, using land concentration in 1890 as the instrument, the coefficient estimate for banks per capita is positive and statistically significant. We do not report these estimates, but they are available on request.

In Table 12 columns 1-3, we examine the coefficient estimate of banks per capita (instrumented by land concentration in 1930) regressed on subsequent average annual manufacturing value added growth for the years 1930-1947, 1947-1967, and 1967-1982. We find that the effect is negative even in the post-war 1947-1967 period when agriculture's importance declined rapidly. However, it turns insignificant in the period 1967-82, a period also associated with substantial bank deregulation, driven in large part by technological advances such as ATMs and distance lending (see Kroszner and Strahan (1999), Petersen and Rajan (2002)) that rendered protective regulation ineffective.[16]

Clearly, the evidence in this last section should only be deemed suggestive because there are so many factors that could drive manufacturing growth, but it is consistent with the view that by constraining financial sector development, landed interests had adverse effects. This is clearly an area for more research.

V. Discussion and Conclusion

The evidence in this paper suggests that local landed interests had substantial influence over the course of banking development in the United States, even as recently as the early twentieth century when the United States was well on its way to becoming the foremost industrial economy in the world. Some of this influence was malign, as evidenced in the lower rate of manufacturing growth in counties with powerful landed interests.

[16] In ongoing work, we find that counties that had fewer banks per capita prior to the wave of state banking deregulation in the 1970s and 1980s grew substantially faster post deregulation than counties that had more banks per capita.

We have not presented much direct evidence of the contemporaneous financial consequences of political influence. That is the subject of ongoing work. Preliminary results suggest that counties with concentrated land holdings are also characterized by higher interest rates on land mortgages, and lower debt to value ratios. Furthermore, the ratio of land mortgage credit to total deposit is also lower in these areas, suggesting the paucity of available funds is not the source of the difference. More work is clearly needed, but these preliminary findings are consistent with the thrust of our thesis that landed interests restricted access to finance.

Interestingly, throughout the paper, we find large local effects, even though institutions that are commonly thought of as important for economic growth, such as broad political and legal institutions, are held relatively constant. This is not to suggest that institutions are unimportant (we have nothing to say on that), but rather that large variations in developmental outcomes may stem simply from differences in the distribution of economic wealth and power in a society (see Banerjee and Iyer (2005), Ramcharan (2007) or Rajan (2007), for recent studies). Examining the relative importance of constitutions and constituencies or, equivalently, institutions and interests, is a task for future research.

Table 1: Variables' Definitions and Sources

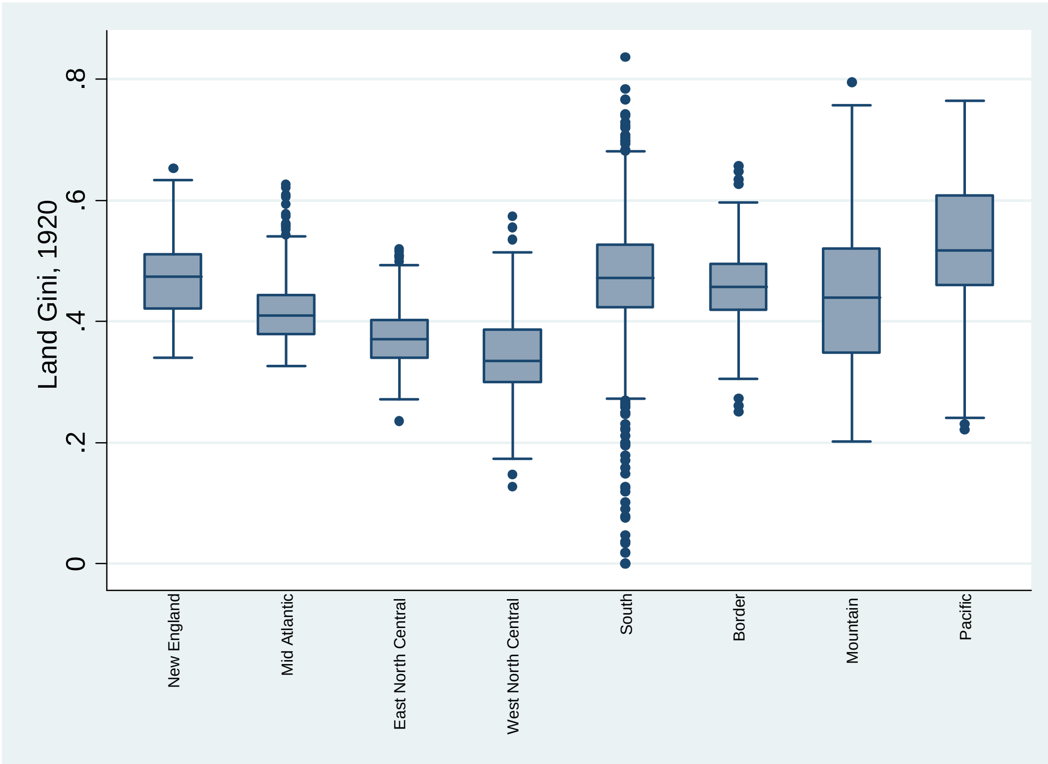
Variable	Source	Definition
Land Inequality (Gini Coefficient)	United States Bureau of Census; Inter-University Consortium for Political and Social Research (ICPSR) NOs: 0003, 0007,0008,0009,0014,0017	The number of farms are distributed across the following size (acres) bins: 3-9; 10-19 acres; 20-49 acres; 50-99 acres; 100-174;175-259;260-499;500-999; 1000 and above. We use the mid point of each bin to construct the Gini coefficient; farms above 1000 acres are assumed to be 1000 acres. The Gini coefficient is given by $1+1/n-\left[2/(m*n^2)\right]\sum_{i=1}^{n}\left(n-i+1\right)y_i$ Where farms are ranked in ascending order of size, y_i, and *n* is the total number of farms, while *m* is the mean farm size. [Atkinson, A.B. (1970)]. At the state level, we sum the total number of farms in each bin across counties, then compute the Gini coeffcient.
Number of State and National Banks Active in each county.	Federal Deposit Insurance Corporation Data on Banks in the United States, 1920-1936 (ICPSR 07).	
Urban Population; Fraction of Black Population; Fraction of Population Between 7 and 20 years; County Area; County Population; Value of Crops/ Farm Land Divided by Farm Population	United States Bureau of Census; Inter-University Consortium for Political and Social Research (ICPSR) NOs: 0003, 0007,0008,0009,0014,0017	
Distance From Mississippi River; Atlantic; Pacific and the Great Lakes.	Computed Using ArcView from each county's centroid.	
Annual Mean Rainfall	Weather Source 10 Woodsom Drive Amesbury MA, 01913 (Data Compiled from the National Weather Service Cooperative (COOP) Network	The COOP Network consists of more than 20,000 sites across the U.S., and has monthly precipitation observations for the past 100 years. However, for a station's data to be included in the county level data, the station needs to have a minimum of 10 years history and a minimum data density of 90 percent: ratio of number of actual observations to potential observations. If one or more candidate stations meet the above criteria the stations' data are averaged to produce the county level observations. If no candidate station exists within the county, the nearest candidate up to 40 miles away in the next county is substituted. The arithmetic mean and standard deviation level of rainfall are computed from the monthly data for all years with available data.

Table 2. County Level Variables, Summary Statistics

	Circa 1920		Circa 1930	
	Mean	Standard Deviation	Mean	Standard Deviation
Inequality	0.43	0.10	0.43	0.10
All Banks, Number Per 100 Square Kilometers	0.08	0.51	0.07	0.40
All Banks, Per 1000 Inhabitants	0.48	0.04	0.37	0.26
State banks, as fraction of all banks	0.71	0.25	0.69	0.27
County Area (Logs)	7.38	0.98	7.38	0.98
National banks, Per 1000 Inhabitants	0.11	0.130	0.09	0.10
Total Population (Logs)	9.76	1.03	9.81	1.05
Urban Population	19.01	24.83	21.30	25.73
Population Density	61.13	902.56	67.75	836.09
Black Population, as a fraction of total population	0.12	0.19	0.11	0.18
5-17 year olds, as a fraction of total population	0.30	0.04	0.30	0.04
Per capita growth in the value of farm lands and buildings, 1920-1930	-0.33	0.35	---	---
Per capita value added in manufacturing, 1920 (logs)	0.01	0.66	---	---
Per capita value of crops, in 1920 (logs)	-0.63	0.51	---	---
Per capita growth in manufacturing value added, 1920-1930	3.61	1.46	---	---
Per capita growth in the value of crops, 1920-1930	6.57	1.18	---	---
Value of fruits, as a share of total agriculture value added	4.35	9.74	5.40	11.97
Value of cereals, as a share of total agriculture value added	42.23	25.06	35.80	26.34
Value of vegetables, as a share of total agriculture value added	11.53	13.60	10.09	14.12
Per capita value added in agriculture, 1930	---	---	3981.91	4751.81
Distance from Mississippi	1032163.00	808239.30	1032163.00	808239.30
Distance from Atlantic	1884416.00	1418925.00	1884416.00	1418925.00
Distance from Great Lakes	1347100.00	926554.80	1347100.00	926554.80
Distance from Pacific	3686264.00	1415177.00	3686264.00	1415177.00
Annual average rainfall (inches)	36.41	13.68	36.41	13.68

Sources and definitions in Table 1.

Figure 1: Land Concentration (Gini Coefficient), 1920.



The shaded rectangle represents the interquartile range, which contains the median—the solid line. The ends of the vertical lines extend to a maximum of 1.5 times the interquartile range. Dots beyond this range are possible outliers.

Table 3: State Level Summary Statistics

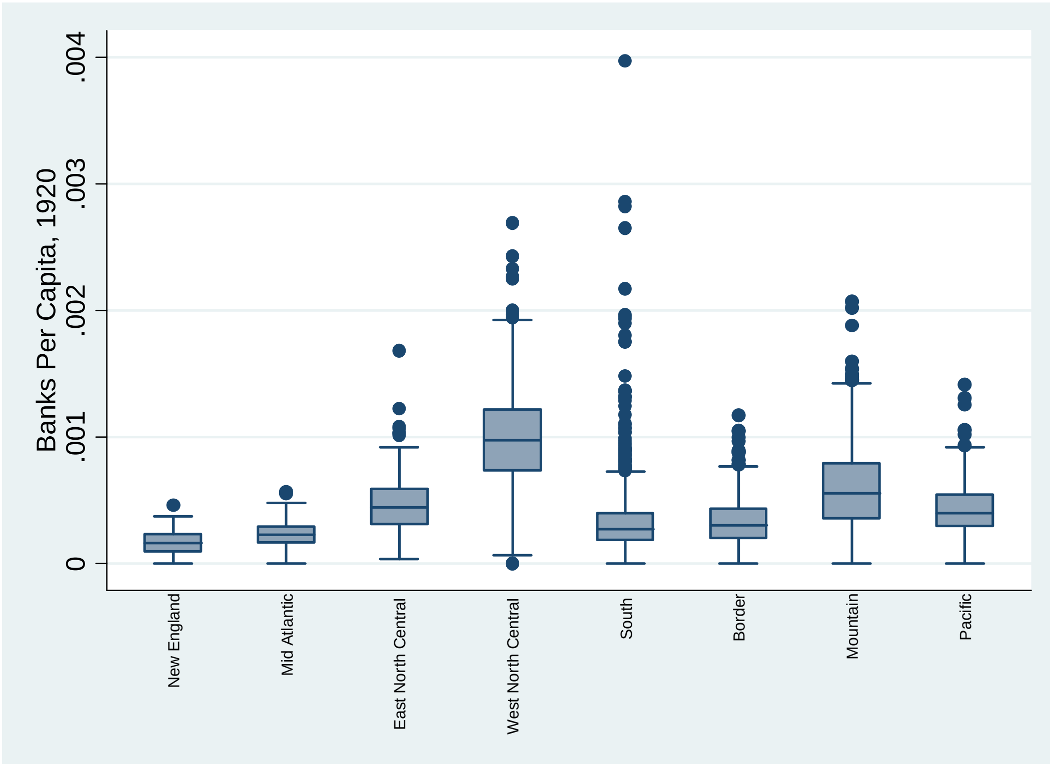
	Mean	Standard Deviation
Land Concentration	0.426	0.101
County Area (log)	7.376	0.977
Mississippi (log)	13.423	1.121
Atlantic (log)	14.011	1.198
Great Lakes (log)	13.761	1.031
Pacific (log)	14.952	0.817
Illiteracy (Fraction)	0.071	0.078
Urban (Percent)	19.011	24.833
Population Density	61.126	902.564
Population (Log)	9.761	1.0324
Black Population (Fraction)	0.117	0.194
Young Population (Fraction)	0.296	0.041
Value of Crops (Per Farm Population) (log)	6.65	0.682
Manufacturing Value Added (Per Capita)	92.901	148.94
Manufacturing Shares	0.392	0.307
Mean Rainfall	36.405	13.677

Table 4: State Laws and Landed Interests

	(1) OLS	(2) OLS	(3) OLS	(4) OLS
	Branching Permitted =1, 1900-1930	Branching Permitted =1, 1900-1930	Maximum Usury Rate, 1890	Maximum Usury Rate, 1890
Land Concentration	-2.2563**	-2.3111**	-0.0189**	-0.0244**
	[1.0397]	[1.0208]	[0.0077]	[0.0117]
Population	---	0.0001	---	-0.000005
	---	[0.0001]	---	[0.000004]
Population Density	---	0.2784**	---	-0.0156
	---	[0.1292]	---	[0.0124]
Urban Population	---	-0.4117	---	0.1200**
	---	[0.8400]	---	[0.0451]
Black Population (Fraction)	---	-0.4633	---	0.0626
	---	[2.4836]	---	[0.0380]
Per Capita Wealth (Real Property)	---	0.0001**	---	0.00001**
	---	[0.0001]	---	[0.000006]
South	---		---	0.0177
	---		---	[0.0213]
Observations	189	189	42	42
R-squared	0.67	0.71	0.07	0.52

* significant at 10%; ** significant at 5%; *** significant at 1%. Columns 1 and 2 include state and year fixed effects, with standard errors clustered at the state level. Columns 3 and 4 report robust standard errors. Land concentration is logged in columns 3 and 4.

Figure 2, Banking Density, 1920.



The shaded rectangle represents the interquartile range, which contains the median—the solid line. The ends of the vertical lines extend to a maximum of 1.5 times the interquartile range. Dots beyond this range are possible outliers.

Table 5a: Banks Per Capita and Landed Interests

	(1)	(2)	(3)	(4)	(5)
Estimation	OLS	OLS	County Fixed Effects	IV	IV
Dependent variable	Banks Per Capita, 1920	Banks Per Capita, 1930	Banks Per Capita, 1920 & 1930	Banks Per Capita, 1920	Banks Per Capita, 1920
<u>Explanatory variables</u>					
Land Concentration	-0.0011***	-0.0006***	-0.0014***	-0.0045***	-0.0053***
	[0.0002]	[0.0001]	[0.0010]	[0.0010]	[0.0013]
County Area (log)	-0.1911	-2.0256***	---	-1.267	-4.097
	[1.052]	[0.8749]	---	[1.796]	[2.736]
Mississippi (log)	3.736***	1.567***	---	-1.681	-0.6345
	[0.9893]	[0.7208]	---	[2.24]	[2.133]
Atlantic (log)	-0.964	-0.1404	---	-11.26***	-12.83**
	[0.7583]	[0.4747]	---	[3.629]	[4.615]
Great Lakes (log)	4.666***	2.965***	---	8.268***	9.044**
	[1.201]	[0.8857]	---	[2.165]	[3.14]
Pacific (log)	1.48	1.647	---	-4.342	-5.696
	[2.067]	[1.194]	---	[4.172]	[4.745]
Illiteracy (Fraction)	---	---	---		44.27
	---	---	---		[56.57]
Urban (Percent)	---	---	---		-0.1913**
	---	---	---		[0.0788]
Population (Log)	---	---	---		5.85*
	---	---	---		[4.179]
Black Population (Fraction)	---	---	---		10.43
	---	---	---		[13.49]
Young Population (Fraction)	---	---	---		-37.35
	---	---	---		[76.57]
Observations	2908	2935	6038	2908	2908
R-squared	0.62	0.52	0.57		

Spatially corrected standard errors in brackets; All regressions include state dummy variables; All regressors except land concentration are scaled by 10e-05. * significant at 10%; ** significant at 5%; *** significant at 1%

Table 5b: First Stage Estimates for Table 5a

	(1)	(2)
Estimation	OLS [1]	OLS [2]
Dependent variable	Land Concentration	Land Concentration
Explanatory variables		
Rainfall	0.0015***	0.0012***
	[0.0004]	[0.0003]
County Area (log)	-0.0004	-0.0093**
	[0.0041]	[0.0047]
Mississippi (log)	-0.0120***	-0.0047
	[0.0039]	[0.0036]
Atlantic (log)	-0.0304***	-0.0284***
	[0.0050]	[0.0049]
Great Lakes (log)	0.0093***	0.0155***
	[0.0046]	[0.0041]
Pacific (log)	-0.0070	-0.0069
	[0.0092]	[0.0072]
Illiteracy (Fraction)		0.2584***
		[0.0791]
Urban (Percent)		0.0004***
		[0.0001]
Population (Log)		0.0207***
		[0.0049]
Black Population (Fraction)		-0.0079
		[0.0253]
Young Population (Fraction)		0.1017
		[0.0923]
Observations	2908	2908
R-squared	0.56	0.62

Spatially corrected standard errors in brackets. All regressions include state dummy variables.

*** significant at 10%; ** significant at 5%; *** significant at 1%**

[1] First stage for Table 5a column 4

[2] First stage for Table 5a column 5

Table 6a: Robustness -- Second Stage Estimates

	(1)	(2)	(3)	(4)	(5)	(6)
Dependent variable	Banks Per Capita, 1930 (IV)	Banks Per Square KM, 1920 (IV)	Banks Per Capita, 1920 (IV)	Banks Per Capita, 1920 (IV)	Banks Per Capita, 1920 (OLS)	Banks Per Capita, 1920 (IV)
<u>Explanatory variables</u>						
Land Concentration	-0.0023***	-0.0810**	-0.0044**	-0.0040***	---	-0.0009***
	[0.0008]	[0.0372]	[0.0023]	[0.0011]	---	[0.0004]
Mean Rainfall	---	---	---	---	-0.2815***	---
	---	---	---	---	[0.0847]	---
County Area (log)	-2.558**	-836.9***	-.9695	.393	5.345***	1.979
	[1.319]	[151.3]	[3.022]	[2.571]	[1.407]	[1.196]
Mississippi (log)	0.6873	31.13	-.0914	.0217	2.287***	3.11***
	[1.055]	[54.36]	[2.25]	[1.765]	[0.6454]	[0.8181]
Atlantic (log)	-3.573**	-190.6	-10.01	-9.008**	2.353***	0.3498
	[2.028]	[116.7]	[6.73]	[3.899]	[0.5857]	[1.152]
Great Lakes (log)	3.339***	88.13	7.304	7.478	1.275	1.629
	[1.514]	[171.5]	[3.969]	[2.473]	[0.8028]	[1.101]
Pacific (log)	-2.303	57.64	-5.335	-3.64	-1.634	0.7501
	[2.747]	[100.5]	[4.417]	[3.897]	[2.041]	[2.429]
Illiteracy (Fraction)	32.42	2760*	26.05	.5415	-87.43***	-63.63**
	[34.83]	[1227]	[57.77]	[44.10]	[17.43]	[16.85]
Urban (Percent)	-0.2421***	1.121	-0.2197***	-0.2023**	-0.3331***	-0.3632***
	[0.0385]	[1.844]	[0.0869]	[0.0664]	[0.0502]	[0.0396]
Population (Log)	2.174	737.8***	2.959	.0156	-8.678***	-4.393***
	[1.889]	[128.1]	[5.627]	[4.207]	[2.202]	[1.363]
Black Population (Fraction)	5.425	-363.0	12.15	11.63	12.80***	16.50***
	[6.283]	[242.6]	[9.841]	[10.29]	[4.432]	[5.295]
Young Population (Fraction)	-174.0***	-2315**	-69.80	15.97	-33.49	-194.8***
	[36.56]	[1570]	[72.96]	[62.13]	[38.88]	[28.32]
Log Value of Crops (Per Farm Employee)	---	---	3.872 [6.155]	---	8.004***	---
	---	---	---	---	[1.927]	---
Log Value of Farm Land (Per Acre)	---	---	---	0.0001***	0.0001***	---
	---	---	---	[0.0000249]	[1.514]	---
Observations	2935	2908	2804	2908	2804	2574

Spatially corrected standard errors in brackets; All regressions include state dummy variables; All regressors except land concentration are scaled by 10e-05. * significant at 10%; ** significant at 5%; *** significant at 1%. Columns 1-4 instrument land concentration using rainfall. Column 6 uses land concentration in 1890 as the instrument.

Table 6b. Robustness – First Stage Estimates.

	(1) Land Concentration, 1930 (OLS)	(2) Land Concentration, 1920 (OLS)	(3) Land Concentration, 1920 (OLS)	(4) Land Concentration, 1920 (OLS)	(5) Land Concentration, 1920 (OLS)
Mean Rainfall	0.0012***	0.0012***	0.0007***	0.0011***	---
	[0.0002]	[0.0002]	[0.0003]	[0.0003]	---
Land Concentration, 1890	---	---	---	---	0.2464***
	---	---	---	---	[0.0232]
Observations	2935	2908	2804	2908	2574
R Squared	0.6	0.62	0.64	0.21	0.68

Spatially corrected standard errors in brackets; * significant at 10%; ** significant at 5%; *** significant at 1%. All regressions include state dummy variables. Columns 1-4 also include the same controls used in columns 1-4 of Table 6a. Column 5 uses the same controls as column 6 of Table 6a.

Table 7. Banking Structure and Land Concentration, Further Robustness Checks

	(1) Banks Per Capita, 1930 (IV)	(2) Banks Per Capita, 1930 (IV)	(3) Banks Per Capita, 1920 (IV)	(4) Banks Per Capita, 1920 (IV)
Land Concentration	-0.0022***	-0.0024***	-0.0059***	-0.0049***
	[0.0008]	[0.0010]	[0.0016]	[0.0011]
Cash Crops*Land Concentration	---	-0.0022	---	---
	---	[0.0111]	---	---
Cash Crops	---	0.0008	---	---
	---	[0.0047]	---	---
Cash Crops, Squared	---	-0.0004	---	---
	---	[0.0003]	---	---
Number of Farms, Per Capita	---	---	-0.0030***	---
	---	---	[0.0009]	---
Education Expenditures, Per Capita (Log)	0.00005***	---	---	---
	[0.0000017]	---	---	---
Farms between 3-9 acres, as share of total farm acreage	---	---	---	0.0748***
	---	---	---	[0.0218]
Farms between 10-19 acres, as share of total farm acreage	---	---	---	-0.0085
	---	---	---	[0.0065]
Farms between 20-49 acres, as share of total farm acreage	---	---	---	-0.0196**
	---	---	---	[0.0060]
Farms between 50-99 acres, as share of total farm acreage	---	---	---	-0.0047
	---	---	---	[0.0045]
Farms between 100-174 acres, as share of total farm acreage	---	---	---	-0.0523**
	---	---	---	[0.0125]
Farms between 175-259 acres, as share of total farm acreage	---	---	---	0.0627**
	---	---	---	[0.0177]
Farms between 260-499 acres, as share of total farm acreage	---	---	---	-0.0136
	---	---	---	[0.0148]
Farms between 500-999 acres, as share of total farm acreage	---	---	---	-0.0432**
	---		---	[0.0257]
Observations	2935	2935	2908	2908
First Stage: Mean Rainfall [Land Concentration is Dependent Variable]	0.0011*** [0.0002]	0.0011*** [0.0002]	0.0011*** [0.0001]	0.0017*** [0.0001]

Spatially corrected standard errors in brackets; * significant at 10%; ** significant at 5%; *** significant at 1%. All regressions include state dummy variables, county area, population, distance from major waterways, illiteracy rate, black population, urbanization, young population. The "First Stage" reports the "Mean Rainfall" coefficient and standard error from the first stage regression: land concentration is the dependent variable, and all controls that appear in the second stage are included in the first stage.

Table 8: National Banks, State Banks, and Land Concentration

	(1)	(2)	(3)
Dependent Variable	National Banks Per Capita, 1920	State Banks Per Capita, 1920	Share of National Banks, 1920
Explanatory Variable			
Land Concentration	-0.0018***	-0.0036***	-1.436**
	[0.0005]	[0.0009]	[0.6736]
Observations	2908	2908	2869

Spatially corrected standard errors in brackets. * significant at 10%; ** significant at 5%; *** significant at 1% .All specifications include a county's distance from the Atlantic, and Pacific Oceans; the Great Lakes; the Mississippi River; county area; population; illiteracy; urban population share; young population; black population; as well as state dummies.

Table 9: Banks per capita and factors that change incentives and the economic power of the landed

	(1) All Tenants	(2) Share Croppers	(3) Cash Tenants	(4) Crop Lien Laws	(5) Crop Lien Laws	(6) Manufacturing Share	(7) Manufacturing Value Added
	Banks Per Capita, 1920 (IV)	Banks Per Capita, 1920 (IV)	Banks Per Capita, 1920 (IV)	Banks Per Capita, 1920	Banks Per Capita, 1930	Banks Per Capita, 1920	Banks Per Capita, 1920
Land Concentration	-0.0040***	-0.0033***	-0.0052***	-0.0054	-0.0016**	-0.0060***	-0.0056***
	[0.0017]	[0.0011]	[0.0012]	[0.0057]	[0.0008]	[0.0018]	[0.0014]
Land Concentration *Tenants Share	-0.0088***	-0.0088***	0.0051***	---	---	---	---
	[0.0038]	[0.0028]	[0.0023]	---	---	---	---
Tenants Share	0.0047***	0.0042***	-0.0011	---	---	---	---
	[0.0017]	[0.0014]	[0.0010]	---	---	---	---
Tenants Share, Squared	-0.0017***	-0.0014**	-0.0019***	---	---	---	---
	[0.0006]	[0.0008]	[0.0007]	---	---	---	---
Land Concentration *Texas	---	---	---	-0.0055	0.0022**	---	---
	---	---	---	[0.0086]	[0.0012]	---	---
Land Concentration *Manufacturing	---	---	---	---	---	0.0041***	0.0008
	---	---	---	---	---	[0.0014]	[0.0005]
Manufacturing	---	---	---	---	---	-0.0016***	-0.00031
	---	---	---	---	---	[0.0006]	[0.0002]
Manufacturing , Squared	---	---	---	---	---	-0.0003***	-0.0002
						[0.0001]	[0.0003]
Observations	2908	2908	2908	1289	1308	2745	2745

All specifications include a county's distance from the Atlantic, and Pacific Oceans; the Great Lakes; the Mississippi River; county area; population; illiteracy; urban population share; young population; black population; as well as state dummies. Spatially corrected standard errors in brackets:* significant at 10%; ** significant at 5%; *** significant at 1%. Columns 4 and 5 use only counties in Southern and Border states. Manufacturing share (column 6) is the fraction of manufacturing value added relative to value added in manufacturing and agriculture. Column 7 uses the per capita value added in the manufacturing sector. This variable is scaled by 10^{-3}.

Table 10. State Banks, National Banks and Distance from State Capitals.

	(1)	(2)	(3)
	All Banks Per Capita, 1920 (IV)	State Banks Per Capita, 1920 (IV)	National Banks Per Capita, 1920 (IV)
Land Concentration	-0.0095**	-0.0066***	-0.0026***
	(0.0039)	(0.0028)	(0.0013)
Land Concentration*Distance from State Capital	0.0177*	0.0135**	0.0003
	(0.0101)	(0.0071)	(0.0003)
Observations	2908	2908	2908
R-Squared	0.47	0.53	0.15

Spatially corrected standard errors in parenthesis. ***, **, * denote significance at the 1, 5 and 10 percent respectively. All regressions include distance from major waterways, area, population, urbanization, black population, age structure (5-17 year olds), state dummies. Distance from the state capital enters as a second order polynomial.

Table 11: Manufacturing growth and landed interests

	(1)	(2)	(3)
Dependent variable	Per Capita Manufacturing Growth, 1920-1930		
Estimation	OLS	IV[2]	IV[2]
Explanatory variables			
Land concentration	-0.7129***		
	[0.2706]		
Banks Per Capita, 1920		1,320.240**	3284.729***
		[574.478]	[1155.878]
Observations	2397	2379	1190
R-squared	0.18		

All specifications include state dummies, initial log per capita manufacturing, initial log horsepower per manufacturing firm, and all previous demographic and geographic variables. In columns 2 and 3, "banks per capita" is instrumented by "land concentration", observed in 1920. Column 3 includes only all counties with above median manufacturing share in 1920. Spatially corrected standard errors in brackets* significant at 10%; ** significant at 5%; *** significant at 1%

Table 12: Manufacturing Growth and Instrumented Banks per Capita Over Time.

Dependent variable	(1) Per Capita Man Value Added Growth, 1930-47	(2) Per Capita Man Value Added Growth 1947-1967	(3) Per Capita Man Value Added Growth 1967-1982
Explanatory variable			
Banks Per Capita, 1930	2154.785**	2166.366**	657.918
	(976.953)	(940.211)	(843.519)
Observations	1859	1955	2151

All specifications include state dummies, initial log per capita manufacturing, and all previous demographic and geographic variables. Spatially corrected standard errors in brackets: * significant at 10%; ** significant at 5%; *** significant at 1%. In all columns, "banks per capita" is instrumented by "land concentration", observed in 1930.

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