Regulation in Crisis: Bank Failures and Entry Barriers*

Sarah Quincy† and Chenzi Xu‡

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Abstract

We provide a new framework of post-crisis regulatory change in which financial crises interact with pre-existing regulations that govern entry to jointly determine the path of recovery and, through that recovery process, the demand for subsequent regulatory reform. We show that entry barriers raised during periods of growth protected incumbents at little immediate cost to credit access but that once banks failed during a crisis, the same barriers impeded recovery and made incumbent protection politically costly. Using a unique setting in which Illinois voters directly decided bank entry regulation, we follow proposed laws from the ballot to the structure of local banking markets, and back to the demand for credit that shaped later votes. During the Great Depression, places where banking access failed to recover shifted toward regulatory reform both in Illinois and across the United States more broadly. These regulatory changes adopted in the midst of crisis then persisted and reshaped American banking market structure for over half a century, highlighting a new mechanism through which crises can have long-lasting effects on financial market structure.

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†Vanderbilt University & NBER; sarah.quincy@vanderbilt.edu

‡University of California, Berkeley & NBER & CEPR; chenzixu@berkeley.edu

1 Introduction

In this paper, we argue that financial crises have long-run effects not only because failures lead to losses in intermediation, but also because they trigger regulatory changes that shape the terms on which institutions can replace them. When banks fail, recovery depends on whether surviving intermediaries can expand or new intermediaries can enter to restore access to financial services. Regulations that govern the barriers to entry are therefore central to crises because they shape the nature and pace of financial recovery.

Whether existing rules allow financial access to be restored therefore helps to determine the direction of post-crisis reform. As prior work has illustrated, the existing regime can survive or even become more entrenched when recovery occurs (e.g., Calomiris and Haber, 2014). However, when those same rules obstruct the replacement of failed institutions, demand for financial services can lead to an overhauling of the prior system and regulatory reversals (e.g., Polanyi, 1944). We thus provide a framework in which differences in these inherited entry barriers can cause regulatory responses to diverge even in the same crisis and otherwise similar institutional environments. The long-run effects of a crisis, as a result, depend not only on the institutions that fail, but also on the entry rules that shape how financial access is rebuilt.

Studying this recovery and reform mechanism empirically requires variation in the burden imposed by pre-existing regulations within a common macroeconomic shock, as well as direct measures of support for regulatory change. Comparing regulatory regimes across countries, or within a country across time cannot separate the role of inherited regulation from other differences in financial structure, political institutions, or the crisis itself. The U.S. banking system during the Great Depression, however, provides such a setting. For a large share of banks, entry regulation was set by states but their requirements varied based on local characteristics. The same state law therefore imposed different costs across towns and counties, allowing us to compare places exposed to the same state institutions and Depression-era shocks but different barriers to replacing failed banks.

We connect these inherited entry barriers to banking access and regulatory change using a new dataset that links state banking laws to local banking markets between 1920 and 1940. We focus on the two most relevant forms of entry barriers: minimum charter capital requirements, and limitations on branching. We collect the full schedule of population thresholds that determined where those requirements applied, and we pair these laws with county-level bank counts nationwide to follow how inherited entry rules shaped banking access across local markets.

Establishing that recovery (or lack thereof) changed the demand for regulation requires direct evidence on preferences over regulatory reform. Standard approaches that use legislative elections are noisy measures of such preferences because candidates bundle many policy positions together. Illinois, however, provides a unique opportunity to directly observe both changes in local banking

markets and regulatory preferences because its constitution between 1870 and 1970 required that all changes to state banking law be ratified by public referendum at the next general election. These referenda therefore provide measures of both the geography of support for entry restrictions before the Depression, and how that support shifted as access to banking services deteriorated.

We link these referenda returns to a new panel of Illinois bank balance sheets. The panel covers both state and national banks, allowing us to follow individual institutions as they enter, exit, and change their lending. Together, the referendum returns and balance-sheet data trace the same local banking markets from the votes to raise entry barriers in the 1920s, through the bank failures of the early 1930s, to the regulatory changes that followed. These data allow us to distinguish when entry regulation protected an incumbent in the local banking market from competition from when it left a community without a bank, and how much the resulting changes in market structure were accompanied by losses in credit provision.

The empirical evidence follows the proposed mechanism closely. First, we establish that capital requirements were binding. We show t lowering entry barriers increased state-bank entry, while raising them reduced it, in Illinois and in the United States more generally. Despite this deterrent effect on entry, banking access losses were short-lived in the 1920s. The dynamics of market structure in Illinois shows that incumbent banking protection coexisted with local access to banking services. Politically, voters also favored higher entry barriers before the crisis, with the strongest support in places where the proposed capital increases implied the largest rise in local entry costs.

Second, we show that these same barriers prolonged local financial distress by preventing recovery during the widespread failures of the Great Depression. Nationwide, the counties which raised capital requirements in the 1920s became most likely to lose all local banking access in the 1930s. In Illinois, higher capital requirements worsened banking access across several margins: towns were more likely to become and to remain unbanked, and the balance-sheet data show that these access losses were reflected in local credit provision. Crucially, the Illinois counties that had supported raising entry barriers in the 1920s now reversed their position to support lowering them in the 1930s, especially in places where banking access had deteriorated.

This lack of recovery does not appear to reflect a standard credit-boom or fragile-balance-sheet channel. The Illinois bank balance sheets show little evidence that places exposed to higher capital barriers had larger pre-crisis leverage buildups or more rapid credit expansion, and the relationship between entry barriers and banking losses remains when we control for pre-crisis balance-sheet characteristics. The results are also not driven by organized banker lobbying as membership in banking associations does not explain the local patterns of support or access loss.

In the final part of our empirical analysis, we trace out the long-run regulatory realignment that emerged from this period. In the U.S. overall, states with the highest capital requirements, and

hence the highest barriers to recovery, were most likely to legalize bank branching. By allowing surviving banks to operate in places where chartering a new unit bank remained costly, nearly half of the states used this alternative channel for reversing regulatory barriers and promoting recovery. After the crisis resolved, the demand for reform fell, and bank entry regulation remained stable for decades. These regulatory changes from the the Great Depression are therefore a critical juncture in the long-run political economy of banking entry regulation in the United States.

Related literature:

This paper contributes first to the literature on the political economy of financial regulation. A central insight of this literature is that regulation reflects the competing interests of affected groups as concentrated benefits are weighed against broader costs to entry, competition, and access (Stigler, 1971; Peltzman, 1976, 1989). Empirical work in financial regulation shows how such interests shape the design and persistence of regulatory regimes, including branching restrictions, usury laws, and other limits on financial-market access (Kroszner and Strahan, 1999, 2001; Benmelech and Moskowitz, 2010; Rajan and Ramcharan, 2011). Regulatory outcomes also depend on the incentives and institutional position of regulators themselves (Lucca, Seru and Trebbi, 2014; Agarwal, Lucca, Seru and Trebbi, 2014).

Viewing regulation as the product of competing interests helps to explain why crises can become turning points that destabilize existing coalitions and generate demand for institutional change (Polanyi, 1944; Hirschman, 1970). Financial crises, in particular, reshape political conflict, voter behavior, and governments' policy constraints (Mian, Sufi and Trebbi, 2014; Gyöngyösi and Verner, 2022; Guriev and Papaioannou, 2022; Funke, Schularick and Trebesch, 2023). Our paper emphasizes that crises unravel otherwise persistent regulatory regimes because protections for incumbent rents in normal times become barriers to recovery during crises. Voter support then reverses precisely when regulatory choices are credible and salient (e.g., Cruz, Keefer, Labonne and Trebbi, 2024). In contrast to the literature focused on how organized interests and incumbents create regulatory protections (White, 1982, 1985; Abrams and Settle, 1993; Rajan and Ramcharan, 2016; Calomiris and Haber, 2014), we show these coalitions backfire regardless of lobbying presence if banking access deteriorates enough to sway voters.

Our mechanism also speaks to work on the origins and persistence of financial crises. A large literature links crises to pre-crisis credit booms, leverage, fragility, and the allocation of credit before failures occur (e.g., Reinhart and Rogoff, 2009; Schularick and Taylor, 2012; Frydman and Xu, 2023; Müller and Verner, 2024). Crises then have persistent real effects because the loss of financial intermediation disrupts the information flows, relationships, and investment through which banks support real activity (Bernanke, 1983; Xu, 2022; Mueller, Xu and Lehbib, 2026). These accounts explain why financial systems become vulnerable to crises; we identify another

channel through which financial institutions' ex-ante behavior worsens crises. Not only can financial institutions build up vulnerability to crises through their lending behavior, but also they shape incumbent protections during booms and therefore regulators' ability to restore financial markets during the crisis. While in many countries the recovery process involves surviving banks absorbing failed institutions (Baron, Schularick and Zimmermann, 2023), in the United States, restrictions on branching limited this margin of recovery, making the replacement of failed local banks depend on whether new unit banks could enter.[1]

The paper therefore also relates to work on the real economic impact of bank entry regulation. A large body of work shows that relaxing geographic restrictions on banks expands access to financial services, facilitates capital reallocation through internal bank capital markets, and supports local economic activity, particularly in areas with limited initial financial development (e.g., Kroszner and Strahan, 1999, 2001; Célerier and Matray, 2019; Fonseca and Matray, 2024; Angelova and D'Amico, 2024; Quincy and Xu, 2025; Bordeu, González and Sorá, 2025; d'Amico and Alekseev, 2025). Research on capital requirements similarly demonstrates their role in shaping bank entry, competition, and real growth over the long run (e.g., Carlson, Correia and Luck, 2022; Xu and Yang, 2024). While this literature establishes the consequences of entry regulation, we study why reform occurred on these margins in the first place. Our evidence shows that the Great Depression became a turning point for unit banking where their failures were no longer replaced quickly or widely. States were most likely to legalize branching where new unit banks were least able to restore local access, producing a divergence in banking access regulation that persisted long after the crisis itself. The Great Depression therefore left a lasting institutional legacy not only through losses to financial intermediation, but also by changing the rules from which banking access could be rebuilt.

The rest of the paper proceeds as follows. Section 2 describes the historical setting and regulatory environment. Section 3 describes our data. Section 4 sets out our model and empirical framework. Section 5 examines how entry barriers shaped banking-market recovery, Section 6 shows how recovery shaped post-crisis regulatory change, and Section 7 concludes.

[1] Explanations for the persistence of unit banking emphasize institutional rigidities, political opposition from rural interests, the unit-banking lobby, and the local rents sustained by restrictions on branch banking (White, 1982, 1985; Calomiris and Gorton, 1991; Calomiris, 2000; Rajan and Ramcharan, 2011; Calomiris and Haber, 2014; Jaremski and Fishback, 2018). Related work emphasizes financial stability and market integration concerns (Sylla, 1969; James, 1976; Mitchener, 2005, 2007; Wheelock, 1993).

2 Historical Background

2.1 State banking law and local entry conditions

American banking developed through state chartering systems with the terms of bank entry remaining largely matters of state law well into the interwar period. State statutes used two primary instruments to determine whether a bank could be chartered, and to shape the geography over which banking services could be supplied. Capital requirements governed the resources a bank had to assemble before opening, while branching rules governed whether an existing bank could serve customers beyond its original office. Together, these state banking laws on local bank entry conditions governed whether a town without a bank could be served by a newly chartered institution, by an office of an existing bank, or not at all.

2.1.1 Capital requirements

Charter capital requirements governed the minimum amount of paid-in equity capital required to open a bank.[2] Prior to the U.S. Civil War, the rise of "free banking" regimes imposed minimal entry restrictions to the extent that some states permitted banks to operate without any required capital. The creation of nationally-chartered banks following the passage of the National Banking Act of 1863 changed this framework by tying minimum capital requirements to the population of the town in which a bank would operate. Populations were set by the most recent United States decennial Census, and requirements jumped discontinuously at specified thresholds (Barnett, 1911).[3] By the 1870s, most states had adopted similar frameworks for the state-chartered banks they regulated. As of 1929, these state requirements governed entry for two-thirds of all banks (Board of Governors of the Federal Reserve System, 1976, 1930).[4]

Because capital schedules were tied to population thresholds, the same statutory requirement imposed very different burdens across local markets. In small and rural communities, the capital required to open a bank was high relative to the number of potential customers, making charter capital a much larger fixed cost of entry than in larger towns and cities. These differences in entry costs shaped both the density of banking offices and the competitive structure of local banking markets, thus determining both the geographic availability of credit and their competitive structure (e.g., Wheelock, 1993; Fulford, 2015; Xu and Yang, 2024; Carlson, Correia and Luck, 2022).

[2] We use the term "capital requirements" in line with its contemporary usage to refer to statutory minimum charter capital.

[3] For instance, national banks required $50,000 for towns under 6,000, $100,000 for those above 6,000, $200,000 for population above 50,000 inhabitants, and finally $500,000 for cities with more than 200,000 inhabitants.

[4] Although state banks that joined the Federal Reserve System faced federal requirements, only 4% of Federal Reserve member banks operated under state charters. The majority of state-chartered banks therefore remained overwhelmingly outside the Federal Reserve System and subject to state capital laws.

2.1.2 Branching restrictions

Branching restrictions governed whether an existing bank could expand through additional offices. Before the Great Depression, communities across the United States were primarily served by single-office unit banks due to widespread branching prohibitions. A handful of states, like California, allowed branching in the early twentieth century, but most states prohibited or severely limited it, leaving unit banking as the dominant organizational form (White, 1982, 1985; Rajan and Ramcharan, 2016; Quincy, 2024).

Federal law reinforced the central role of state branching rules. The McFadden Act of 1927 limited nationally chartered banks to branching only where, and to the extent that, state law permitted branching for state-chartered banks. As a result, this statute, often described as permitting national-bank branching, in practice gave state-level anti-branching coalitions effective veto power over the geographic structure of both state and national banks. The Banking Act of 1933, otherwise known as the Glass-Steagall Act, preserved this state-centered framework by completely delegating branching decisions to state legislatures (Chapman, 1934).

2.2 Coalitions over entry regulation

Support for unit banking rested on a coalition whose interests were both economic and ideological. Unit bankers benefited directly from limits on geographic entry: when outside banks could not branch into local markets, incumbents faced less competition over lending rates, deposits, and service fees. Local elites, especially large farmers and small-town merchants, feared that branch banking would redirect local deposits toward outside investments, weakening the relationship between local savings and local credit (Calomiris, 2000; Rajan and Ramcharan, 2011, 2016).

These economic interests were reinforced by a broader ideological language of local control. Rural newspapers and banking trade publications portrayed branch banking as a threat to community autonomy, while local unit banks were described as independent institutions rooted in local knowledge and accountable to local needs. The *Banker Farmer*, a journal devoted to rural banking interests, made this alliance explicit by linking local bankers to agricultural elites. In this rhetoric, shown in Appendix Figure D.1, unit banking stood for independence and democratic control, while branch banking stood for concentration, absentee ownership, and Wall Street domination.

The growth of ~~in~~ the 1920s made the limits of this system increasingly visible. Industrial firms needed loans that small local banks could not easily provide. For example, a unit bank in a town of 5,000 people, capitalized at $50,000, could not safely make loans of the size required by growing manufacturing firms, which created pressure to allow for branch networks that could pool capital across locations (Giedeman, 2005).[5] At the same time, the post-World War I agricultural

[5]Bond market access was concentrated among large firms in the 1920s and 1930s, so most firms relied on bank

downturn exposed the fragility of small rural banks as unit banks with loan portfolios concentrated in a single town or county had little ability to diversify away from local agricultural risk. When the local economy collapsed, the local bank often followed (Alston, 1983; Wheelock, 1992; Jaremski and Wheelock, 2020).

Capital requirements generated parallel political conflict over local access to bank entry. Contemporaries portrayed high charter capital as a barrier facing farmers and small-town merchants, and the populist movement of the 1890s mobilized around demands for easier bank entry (Eichengreen, 1984; White, 2014; Jaremski and Fishback, 2018).[6]

By the end of the decade, however, regulators increasingly treated small-bank entry from the lower capital requirements as a potential threat to stability rather than simply a matter of credit access. Individual regulators had argued since at least 1910 that entry barriers were too low (American Bankers Association, 1935), and in 1929 the National Association of State Bank Supervisors resolved that rural areas needed higher capital requirements (cited in Federal Reserve System, 1932, p.96). That same year, the Comptroller of the Currency observed that "the system of banking in the rural communities has broken down" and that depositors in small country banks had suffered severely, with little prospect of improvement under existing entry conditions (Office of the Comptroller of the Currency, 1929, p.3). As more and more small banks failed, low capital requirements appeared to be increasingly costly for financial stability.[7]

2.3 The Great Depression as a regulatory turning point

The Great Depression changed the terms of this debate by turning bank entry from a long-running question of competition and local control into an immediate problem of replacement that raised demand for regulatory change. The new central challenge was that failures now left many communities without banking services. Smaller and more rural banks had failed at higher rates in earlier downturns as well, but new bank charters continued to outpace failures throughout the 1920s (American Bankers Association, 1935). The scale of Depression-era failures made replacement far more difficult.[8] In 1927, after the closure of the only bank in Catoosa County, Georgia, the *Summerville News* warned that "business will inevitably be dull" (Appendix Figure D.2a). By 1931, the same paper described liberalizing banking law as desirable so that banks could better serve borrowers (Appendix Figure D.2b).

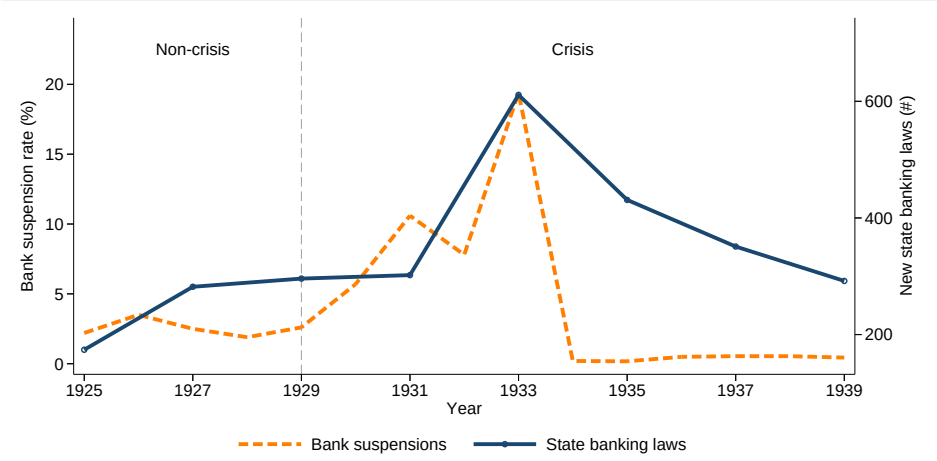
credit (Hunter, 1982; Benmelech, Frydman and Papanikolaou, 2019).

[6]Congress responded in 1900 by halving the minimum capital requirement for national banks in places under 3,000 people from $50,000 to $25,000, with most state legislatures following suit (James, 2015).

[7]Other safeguards, like reserve requirements and double liability, largely pre-dated the roll-out of state supervisory powers and deposit insurance programs in the 1910s and 1920s (Mitchener and Jaremski, 2015). Appendix Table C.1 compares these latter two phenomena to bank-entry legislation, and Appendix Figure C.1 shows that growth in capital costs did not follow a distinct pattern in states with deposit insurance.

[8]Roughly 9,000 commercial banks suspended from 1930 to 1933, compared with about 5,000 between 1921 and 1928 (of Governors of the Federal Reserve System , US; American Bankers Association, 1935).

Figure 1: Bank failures and banking law activity



Notes: The figure plots annual bank suspensions and state banking-law changes on a common horizontal axis. The dashed orange series is the annual bank suspension rate, measured against the left axis, and the solid blue series is the number of state banking-law changes recorded in the biennial *State Law Index*, measured against the right axis. The law series is observed biennially and is plotted only at its observed years, 1925 through 1939. The sample runs from 1925 to 1939, the years over which both series are observed. The right axis is truncated below 150 laws. The vertical dashed line at 1929 separates the non-crisis and crisis periods. Sources: Library of Congress, *State Law Index: An Index and Digest to the Legislation of the States of the United States Enacted During the Biennum*, 1925–1939; bank suspensions from Correia, Luck, and Verner (2026).

Branching offered one way to restore access without lowering charter capital standards. Its advocates argued that branch networks could diversify across regions and sectors, allowing losses in one market to be absorbed by profits elsewhere and making banks less dependent on the fortunes of a single local economy. During the Depression, this argument became more compelling as failed unit banks became harder to replace through new local charters, a connection made explicitly in congressional debate over nationwide banking legislation (e.g., 72nd Congress, 1932, p.1417). Figure 1 shows the scale of the rupture as bank suspensions surged after 1929 and that this wave of failures coincided with a sharp increase in state banking-law activity. The Great Depression was therefore not only a shock to financial intermediation, but also the turning point that made state law the arena in which the inherited tradeoff between local bank protection and banking access could be resolved.

3 Data

Tracing the recovery of local banking markets after the Great Depression requires data that connect regulation, political support, and the structure of financial intermediation at the local level. We build four linked datasets for this purpose. First, we construct a new panel of state banking laws that measures the legal conditions governing bank entry across the United States. Second, we use Illinois referendum returns to directly observe local support for changes in bank entry regulation.

Third, we digitize and link Illinois bank-level records to follow local banking markets from entry and exit through balance-sheet adjustment and credit provision. Fourth, we assemble measures of organized banker interests and local economic conditions, allowing us to separate demand for financial access from alternative explanations based on lobbying, agricultural structure, or other local economic characteristics. Together, these data allow us to examine each step of our mechanism, from state law to local entry costs, from local entry costs to banking-market recovery, and from recovery to support for subsequent regulatory change.

3.1 Regulations

We construct a new panel of state banking laws that captures bank entry conditions and related regulatory changes between 1920 and 1940. For the universe of banking-related legislation, our primary source is the biennial *State Law Index* compiled by the Library of Congress, which summarizes every law passed by state legislatures over the preceding two years. These indices organize laws by broad topic, such as "banks and banking," and by detailed legal provisions, such as chartering authority, capital requirements, and branching restrictions. For each entry, the index reports the state, legislative session, date of passage, and law number.

Universe of banking laws. We digitize and harmonize all banking-related entries from the *State Law Index* to code regulations at the level of individual legal conditions. Because a single statute may introduce multiple regulatory changes such as tightening entry requirements while expanding supervisory authority, we record each regulatory change individually. We standardize topical and sub-topical categories across legislative sessions, manually linking equivalent legal provisions whose labels vary across editions. We supplement this universe with detailed statutory information on the two entry instruments used in the analysis: minimum capital requirements and branching restrictions.

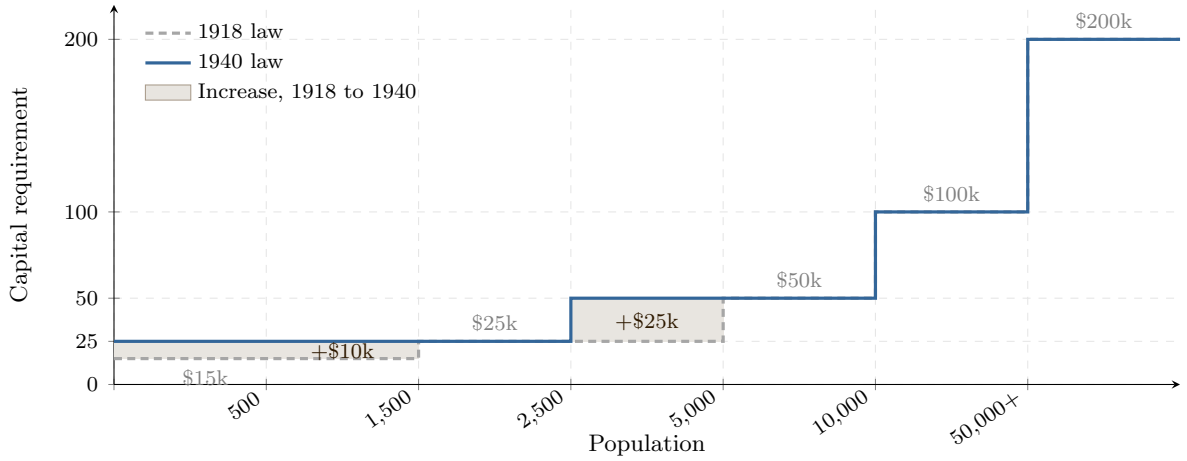
Capital requirement schedules. We hand-collect the full schedule of statutory minimum capital requirements for each state and year from original state session laws, which records the paid-in capital requirements at each population threshold. Appendix Figure B.1 reproduces an example of the underlying session laws used to code capital requirements, and Appendix Figure B.2 plots two state-level schedules over time. We supplement the original session laws with historical digests such as Welldon (1910).

By documenting the entire schedule of statutory requirements, our approach covers the entire U.S. population, which substantially expands the coverage in prior work (e.g., Wheelock, 1993; Mitchener, 2005, 2007), which only recorded the state minimum. Recording the lowest requirement in a state omits 60% of the U.S. population in 1920 whereas including all requirements allows us

to include the relevant costs for larger places that have higher requirements. Appendix Figure B.3 illustrates how statutory schedules translate into local entry costs across the population distribution and how these costs relate to branching eligibility.

Figure 2 illustrates an example of how these statutory capital requirements may change by comparing the Illinois schedules at the beginning and end of our period. First, it shows how the same statewide law assigned different minimum capital requirements across places depending on city population, making local exposure depend on where a place fell relative to the statutory thresholds. Second, it illustrates the how the laws changed between 1918 and 1940 as Illinois eliminated the lowest capital category and raised requirements for medium-sized towns. Places with population below 1,500 people that had required $15,000 in paid-in capital in 1918 faced a $25,000 requirement by 1940, and places between 2,500 and 5,000 people move into the $50,000 category. The schedule remained unchanged, however, for cities over 5,000 people. Coding only the statewide minimum therefore not only omits a large share of the population but also misses the variety of direction and intensities of capital requirement changes within the same state law.

Figure 2: Illinois capital requirements by city population, 1918 and 1940



Notes: The figure plots the statutory minimum paid-in capital required to charter an Illinois state bank by city population under the 1918 and 1940 banking laws, shown together on a single axis. Requirements are in thousands of dollars. Population bins are plotted as a step function using the statutory thresholds in each law; the final bin includes cities with population above 50,000. The dashed gray line is the 1918 schedule and the solid blue line is the 1940 schedule; the two coincide for cities above 5,000 people. Shaded areas mark the population ranges in which the 1940 law raised required capital, with the size of the increase labeled. Sources: Illinois state session laws and authors' calculations.

We translate these statutory schedules into local entry costs by assigning each incorporated place the minimum capital requirement implied by its population in the most recent decennial census. We construct place populations using crosswalks from Bleemer and Quincy (2026).[9] For each place and year, we compute required bank capital per capita, defined as the statutory minimum

[9]These crosswalks harmonize the official Census Bureau list of places for each census with the corresponding restricted full-count census, available through Ruggles et al. (2021) and then standardize place names and county borders over time to build a consistent panel of incorporated places.

capital divided by local population. We aggregate to the county level by taking the median across incorporated places within each county. Appendix Figure C.2 shows that the main patterns are similar when we hold population fixed at its 1920 level.

Branching eligibility. We also code the legality of bank branching and the conditions under which branches could be established. Appendix Figure B.4 reproduces an example of the statutory provisions used to code branching restrictions. State branching laws varied not only in whether branching was permitted, but also in the geographic, population, competition, and capital restrictions attached to branch entry. By applying these statutory provisions to city populations, we construct indicators for whether a location was legally eligible to host a bank branch in each year. We aggregate these indicators to the county level using population weights to measure the share of residents living in branch-eligible locations.

Constructed regulatory variables. The regulatory data produce three objects used in the analysis: an annual panel of state banking law changes by regulatory dimension, including both increases and decreases in entry restrictions; a county-level panel of median bank entry costs per capita based on statutory capital requirements; and a county-level measure of the branching eligible population.

3.2 Preferences over regulations

We complement the legislative data with direct measures of public support for changes in bank entry regulation. Because modern opinion polling does not exist for this period, studies of regulatory preferences usually infer voter demand from legislative elections, where banking policy is bundled with many other issues. Illinois provides a rare alternative because its constitution required that proposed changes to state banking law be ratified by public referendum at the next general election.

County-level referenda returns. We identify all bank-related referenda between 1920 and 1940 using Illinois Office of Secretary of State (various years), published by the Office of the Secretary of State. For each referendum, we link the ballot language to the underlying session law to determine the precise regulatory change being proposed, including whether it increased or decreased statutory capital requirements and which population classes were affected. Because each referendum changed capital requirements only for specified population classes and often by different amounts, counties differed in how much the proposal would change local entry costs depending on the size distribution of their incorporated places and the specific law proposed. We use this information to calculate the implied county-level change in entry costs for each referendum.

We measure political support by transcribing the county-level "yes" and "no" vote totals from the official election returns. We measure abstentions by subtracting the sum of "yes" and "no" votes from the total number of votes cast for the highest office on the ballot in that election. These data yield a county-by-referendum panel of voting outcomes over specific banking-law changes. We further collect each county's votes for all candidates running for the highest office on the ballot (e.g. President of the United States) to calculate support for each political party and voter turnout.[10]

3.3 Local banking markets and balance sheets

The final component of the data links regulatory exposure and voter support to the evolution of local banking markets. We combine newly digitized Illinois bank-level records with national county-level banking data to measure entry, exit, replacement, banking access, and credit provision.

Illinois bank panel. For Illinois, we digitize the full panel of state bank reports from 1917 to 1940. These reports record each state bank's location and end-of-year balance sheets, including paid-in capital, assets, deposits, and loans. We standardize bank names and locations across reports, link institutions over time, and match banks to incorporated places. This procedure allows us to construct a town-year panel of state-bank entry, exit, merger, monopoly status, and banklessness. Appendix B.3 provides additional details on the OCR, matching, and balance-sheet harmonization procedures.

We then combine the state-bank panel with national-bank records to measure the full local banking market. This combined panel allows us to observe whether a town retained banking access, became bankless, was only served by one local incumbent, or saw a failed institution replaced by a new or surviving bank. Because the state and national bank records include balance sheets, we can also examine whether changes in bank access were reflected in local credit provision rather than only in the number of charters.

Balance-sheet variables. We digitize the full set of bank balance sheets from the Illinois state bank reports (Illinois Auditor of Public Accounts, various years), which allows us to measure local credit provision and the structure of financial intermediation, including capital ratios and leverage. For each bank-year, we observe the size and composition of the balance sheet, including loans, assets, capital, and deposits. In addition, we observe identifiers such as the bank location and the managing officers. We use this information to link banks over time and to match them to incorporated places.

We conduct the same procedure for nationally chartered banks by extending the balance sheet panel originally collected by Correia, Luck and Verner (2024) through 1940 via Office of the

[10] Banking laws were decided by a simple majority vote, unlike many other referenda.

Comptroller of the Currency (1935–1940) and assigning them to historical incorporated place data.

The bank panel provides an additional measure of local banking access based on the total volume of credit available to a town, which we compute as the sum of all bank loans from both state and national banks in that town-year. We also aggregate these measures to the county level to match the geographic resolution of the referendum and regulatory data.

Banking data nationwide. Outside Illinois, we measure local banking access using county-year data on the number of independently chartered banks between 1920 and 1936 (Federal Deposit Insurance Corporation, 1992). We use bank suspensions from the same source to measure local banking distress. These data allow us to test whether the relationship between inherited entry barriers and banking access losses appears beyond Illinois, even where direct voting returns and bank-level balance sheets are not available.

Organized banker interests. We capture the extent of organized banker influence by digitizing bank-level membership in the Illinois Bankers Association between 1920 and 1940. We use the 1920–21 association membership lists (Association, 1920*a*,*b*), 1928–30 association lists of new members and non-members (Association, various years), and 1924 and 1940 bankers' directory lists of association members (McNally, various years) in the years around the referenda. We link these records to our panel using bank names and locations and then aggregate membership to the town and county level.

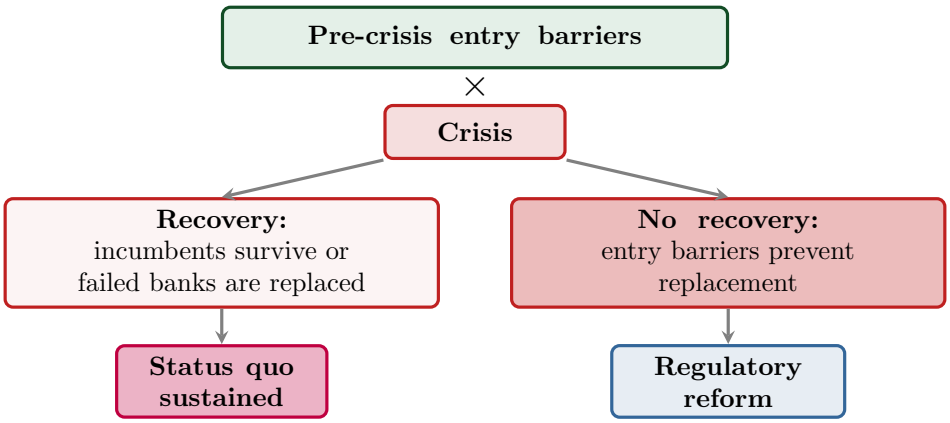
Demographic and economic characteristics. To measure local economic structure and constituency characteristics, we use decennial state- and county-level census data on population, agriculture, and manufacturing (Haines, 2010). These data provide information on population size and distribution across urban and rural places, farm values and land inequality, and manufacturing activity, which we use to proxy for local demand for banking services and the economic interests of potential voting blocs.

4 Empirical Framework

We organize the empirical analysis around a simple framework of crisis-induced regulatory change. The framework follows what we call the recovery channel: inherited entry barriers shape whether banking access can be restored after closures, and the success or failure of recovery then shapes demand for regulatory reform. In normal times, entry barriers may protect incumbent banks, which earn rents from lower competition. In addition, as recorded in the historical narrative, communities also placed value on retaining a locally owned bank. The political value of an entry

barrier therefore rises with the strength of the local incumbent's position, but it disappears when no local incumbent remains. While incumbents are in place, their value is obtained at little visible cost to access. After failures, however, the same barriers can prolong a crisis by making failed institutions harder to replace. A crisis can therefore change the political consequences of pre-existing rules by changing whether those rules preserve access or obstruct recovery. We provide the formal model and propositions in Appendix A and illustrate the mechanism in Figure 3.

Figure 3: Recovery channel of regulatory change



The figure depicts the two post-crisis cases considered in the framework. In the first, banking access recovers under existing entry regulation; in the second, entry barriers impede replacement after bank failures.

4.1 Empirical predictions

Our model delivers three empirical predictions:

1. When banking access remains intact, entry barriers garner political support and are politically sustainable.

2. When failures make replacement necessary, higher capital costs deter new entry and make communities more likely to remain without banks.

3. Failed recovery weakens support for entry barriers and shifts reform toward restoring access. Among communities affected by a barrier, support should be stronger where a local incumbent remains and weaker where banking access is absent. As these local responses aggregate, reform should be strongest where inherited barriers most impede replacement and, if capital standards retain prudential value, should favor branching over a rollback of capital requirements.

4.2 Empirical strategy

We test these predictions by comparing places differentially exposed to changes in entry regulation in crisis versus non-crisis periods using a difference-in-differences estimator. Because state laws bind through local characteristics, these regulatory changes generate different local exposure to entry cost changes across places subject to the same statewide political decisions and shocks.

We measure the change in local statutory capital costs inherited at the start of a period and relate it to subsequent banking-market or regulatory outcomes. Thus, for example, we link the outcomes in the 1930s to legal changes in the 1920s.

Our design allows us to restrict our identifying variation to differences across locations within states such that our results do not depend comparing states with different banking regimes, and which also sometimes differed in supervision, deposit insurance, liability rules, political institutions, and along other dimensions of financial regulation. Our baseline comparisons instead use local variation generated by the same state law: places within a state faced different effective regulatory burdens because their population distributions placed them on different sides of statutory thresholds. Throughout our analysis, we examine changes in outcomes over a given period, which absorbs permanent differences in levels across locations. We include location fixed effects to allow for places to have different trends over time such that each outcome is compared to its own average change, and we have time fixed effects absorb common shocks to each period. In our most demanding specification, we include state by time fixed effects, which absorb all state-level shocks. The remaining variation comes from the interaction between a new state law and local exposure to that change.

The identifying assumption is that outcomes in more- and less-exposed places within the same state would have followed parallel paths, subject to controls, absent the statutory change. The contrast between the non-crisis and crisis coefficients identifies how the effects of a law varies when failures make replacement entry more important. This comparison allows for more- and less-exposed places to differ in their baseline relationship to banking outcomes as long as any differential trend does not itself change across the two periods.

The main threat to this assumption is that statutory schedules are written in population thresholds, so exposure is a function of town size, and town size is correlated with the severity of the Depression through characteristics such as agricultural dependence, bank density, and the composition of local borrowers. Three features of the design help to address this concern. First, location fixed effects absorb permanent differences across places of different sizes. Second, the treatment is the change in the schedule rather than its level, so identification comes from where a place sits relative to a threshold that a particular law happened to move, not from its size as such. Third, successive laws moved different parts of the schedule, so the same place is exposed in some waves

and unexposed in others. We can further condition on local population and pre-crisis economic characteristics in $X_{\ell t}$, and report estimates with and without these controls. Standard errors are clustered at the level of the local banking market.

Banking-market recovery. The first and second predictions imply that the effect of entry barriers should differ between non-crisis periods, when incumbent banks generally remain in place, and crisis periods, when failures make replacement entry necessary. We estimate specifications of the form

$$Y_{\ell t} = \beta_N \left(T_{\ell t} \times NonCrisis_t\right) + \beta_C \left(T_{\ell t} \times Crisis_t\right) + \alpha_\ell + \alpha_{st} + \Gamma' X_{\ell t} + \varepsilon_{\ell t} \tag{1}$$

where ℓ indexes a local banking market and $Y_{\ell t}$ is an outcome measuring changes to that market including entry, exit, banklessness, monopoly persistence, bank counts, or credit provision. $T_{\ell t}$ denotes the change in local statutory capital costs a place has inherited at the start of period t throughout, constructed from the interaction of state capital schedules with local population thresholds. The coefficients β_N and β_C compare the effect of these capital-cost changes in non-crisis and crisis periods, respectively. α_ℓ and α_{st} denote location and state by time fixed effects, while $X_{\ell t}$ captures pre-crisis characteristics interacted with time fixed effects.

We use this design in two settings. In Illinois, ℓ is typically a town and the non-crisis/crisis contrast is implemented through the capital-law changes approved by referenda in 1920 and 1924 (non-crisis), and 1930 and 1940 (crisis), respectively. In the national county panel, ℓ is a county and $T_{\ell t}$ is measured as the change in county median statutory capital costs over the period preceding the banking outcome. Standard errors are clustered at the level of the town and county, respectively.

Voter support. The third prediction links recovery failure in the crisis to declining support for protection. We test this directly using the Illinois referenda over proposed state bank capital law changes. We estimate

$$Support_{ce} = \beta_N \left(T_{ce} \times NonCrisis_e\right) + \beta_C \left(T_{ce} \times Crisis_e\right) + \alpha_c + \alpha_e + \Gamma' X_{ce} + \varepsilon_{ce}, \tag{2}$$

where $Support_{ce}$ is support for raising entry barriers in county c and referendum e, T_{ce} is the percentage change in local capital costs implied by the proposal on the ballot, $NonCrisis_e$ indicates non-crisis referenda, and $Crisis_e$ indicates crisis-era referenda. County fixed effects compare the same county across referenda, while referendum fixed effects absorb statewide political conditions and the common content of each ballot measure. Identification therefore comes from whether counties facing larger implied capital-cost changes voted differently from counties facing smaller changes in the same election.

The contrast between β_N and β_C tests whether counties exposed to higher entry costs supported those barriers during the non-crisis period but reversed their positions and withdrew support once the Great Depression set in.

Prediction 3 specifies that the relationship between exposure to changes in entry barriers and support for those regulatory changes should depend on whether a local incumbent remains. Support for higher capital requirements should therefore be stronger where affected communities have an incumbent bank and a motive for protectionism, and weaker where banking access is absent. We test this mechanism by estimating

$$Support_{ce} = \beta_U EU_{ce} + \beta_B EB_{ce} + \gamma U_{ce} + \alpha_c + \alpha_e + \Gamma' X_{ce} + \varepsilon_{ce}, \tag{3}$$

where EU_{ce} is the share of county population living in incorporated places that were both exposed to referendum e and without a bank before the vote, EB_{ce} is the share living in exposed incorporated places with a bank, and U_{ce} is the share living in all incorporated places without a bank.[11]

The coefficient β_U compares exposed and unexposed communities among places without a bank, while β_B makes the same comparison among places with a bank. The difference $\beta_U - \beta_B$ tests whether exposure to the proposed law was associated with less support for higher barriers where banking access was absent than where an incumbent remained. Prediction 3 implies $\beta_U < \beta_B$, with the stronger version of the mechanism yielding $\beta_U < 0$ (support is negative among the unbanked counties exposed to law changes) and $\beta_B > 0$ (support is positive among the exposed banked counties).[12]

County fixed effects absorb persistent differences in voting across counties, while referendum fixed effects absorb the statewide political conditions and common content of each ballot measure. Identification comes from differences in exposure and banklessness across counties within a referendum and from changes in those conditions within counties across referenda.

Regulatory reform. Prediction 3 also implies that reform can move toward margins that restore access where replacement through new unit-bank entry is most difficult. We use the national

[11] Because all exposed places are comprised of those that are banked and nonbanked ($E_{ce} = EU_{ce} + EB_{ce}$), equation (3) is algebraically equivalent to the standard interaction specification $\beta_B E_{ce} + (\beta_U - \beta_B) EU_{ce} + \gamma U_{ce}$, together with the fixed effects and controls shown in the equation. Writing it in split-slope form has the advantage that β_U directly measures the relationship between exposure and support among places without a bank, while β_B measures the corresponding relationship among places with a bank. We construct these measures by classifying each incorporated place before aggregating its population to the county level, so each treatment variable captures the overlap between exposure (or lack thereof) and banking access at the county-level.

[12] This comparison is the empirical counterpart to equation (7) in Appendix A, where the value of incumbent protection raises support for capital requirements while the access cost of deterring entry lowers it.

county-period panel and estimate

$$Branching_{\ell t} = \beta_N \left(T_{\ell t} \times NonCrisis_t\right) + \beta_C \left(T_{\ell t} \times Crisis_t\right) + \alpha_\ell + \alpha_t + \Gamma' X_{\ell t} + \varepsilon_{\ell t}, \tag{4}$$

where $Branching_{\ell t}$ measures whether a county gained legal access to branch banking, or the share of county population living in places newly eligible for branching. The treatment $T_{\ell t}$ is the recent change in local statutory capital costs inherited before the branching outcome is measured, constructed in the same way as in the banking-market recovery regressions. This specification asks whether branching reform occurred where recent increases in entry costs made replacement by new unit banks most difficult during the crisis.

5 Entry Barriers and Banking Access

This section tests Predictions 1 and 2. We first show that capital requirements constrained bank entry. We then show that the same entry barriers had different consequences for banking access in normal times and during the Depression: they protected incumbent market positions without reducing access in the 1920s, but then impeded replacement once failures made recovery depend on new entry.

5.1 Capital requirements were binding for entry

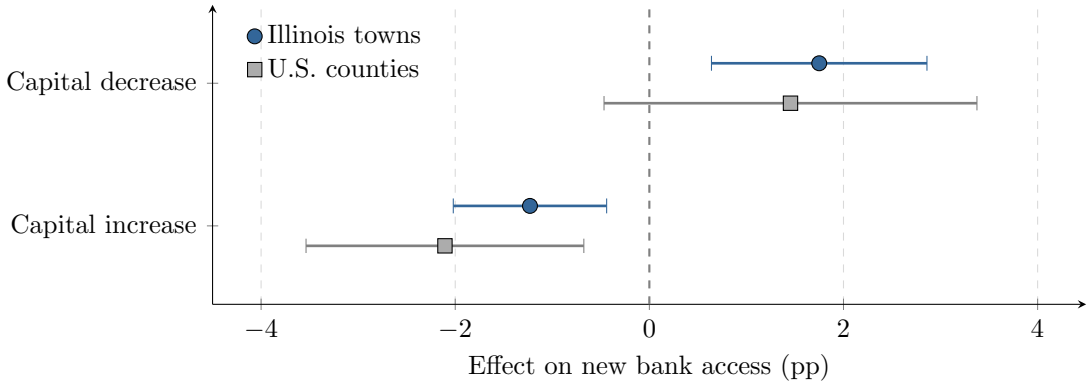
Before turning to our empirical analysis of Prediction 1, we first show that the statutory capital changes affected the same bank entry margin as in our mechanism and work on national banks in other periods (e.g., Carlson, Correia and Luck, 2022; Xu and Yang, 2024).

We estimate reduced-form entry regressions at the location-period level, where a location is an Illinois town in the referendum analysis and a county in the national analysis. The outcome is an indicator for whether the location gains a bank over the relevant window. The treatment is the change in the statutory capital requirement that applied to that location. In Illinois, this variation comes from whether a town fell in the population classes affected by each referendum-specific schedule; in the national panel, it comes from whether the county's median statutory minimum rose or fell over the preceding period. The specifications compare more- and less-affected locations around the same legal change, absorbing location and period fixed effects.

Figure 4 summarizes the entry evidence by plotting the Illinois state-bank estimates (blue circles) alongside the corresponding U.S. county estimates (gray squares), with 95% confidence intervals. The x-axis reports the percentage-point effect on the probability that a town or county gains new bank access. In both Illinois and U.S. counties nationally, places where capital requirements increased became less likely to gain banks, while those where requirements decreased became more

likely to gain them.

Figure 4: Capital requirements and bank entry



Notes: Figure reports estimated effects of capital requirement changes on bank entry. Illinois estimates are town-year regressions of state-bank entry on exposure to the 1920 decrease and 1930 increase in Illinois capital-law requirements, with town and year fixed effects. U.S. estimates are county-period regressions of new bank access on indicators for increases or decreases in county median capital requirements during the prior period. The x-axis reports percentage-point changes in the probability that a town or county gains new bank access. Horizontal bars report 95 percent confidence intervals using standard errors clustered by town for the Illinois estimates and by county for the U.S. estimates.

5.2 Impact on banking market access

Section 5.1 shows that capital requirements constrained the creation of new banks. We next implement the banking-market recovery design in equation (1) at the town-year level in Illinois to show that the impact of these entry barriers on financial market access depended on the state of the banking market: entry barriers can protect incumbents without reducing access during normal times, but become costly when failures are widespread

Illinois in both 1924 and 1930 voted to increase its capital requirements, which allows us to observe how capital increases impacted banking market structure.[13] Our framework predicts that the 1924 increase that occurred during a period of growth protects incumbents without visibly reducing access, while the 1930 increase that took effect as the banking crisis began reduces access on every margin.

We capture banking access and incumbent protection by categorizing each town into three mutually exclusive and jointly exhaustive banking-market states: unbanked (zero banks), monopoly (one bank), or fully banked (two or more banks). We estimate the effects of the 1924 and 1930 regulations on each outcome in a pooled regression using the sample of towns that had at least one bank at some point between 1918 and 1940.[14] As in equation (1), the treatment is the signed log

[13] Appendix Figure B.5 reports the full statutory schedules for each referendum. The 1924 law raised the minimum capital requirement to $25,000 in towns with fewer than 1,500 residents, increasing requirements from $10,000 in towns below 500 residents and from $15,000 in towns with 500–1,499 residents. The 1930 law raised the minimum to $50,000 in all towns with fewer than 5,000 residents.

[14] By design, the coefficients across the three banking-market states sum to zero for each legislative change.

change in the town's statutory minimum capital requirement under each law. For interpretability, we report the coefficients scaled to the effect of doubling the statutory minimum.

Figure 5a reports the results. The 1924 law that increased capital requirements shifted towns toward monopoly markets (32.8 pp increase in likelihood) without reducing the probability that they had banking access (12.6 pp reduction in likelihood of becoming unbanked). The corresponding law change in 1930 leads to sharply different effects. Over the course of the 1930s, the same increase in capital requirements raised the probability that a town had no bank by 13.7 pp and reduced the probability that it remained a monopoly market by 11.4 pp. In both sets of law changes, the entry barriers had negative effects on towns becoming fully banked, although the effect is not statistically significant in 1930. The 1924 and 1930 coefficients differ at the one-percent level for each outcome.

Appendix Table C.2 reports the full set of coefficients behind these estimates. Panel A lists one coefficient per law, so the 1924 and 1930 rows are the estimates plotted in Figure 5a, and it also reports the 1920 and 1940 decreases, which move the outcomes in the opposite direction. Panel B pools all four Illinois law changes, combining the 1920 and 1924 changes in the non-crisis coefficient and the 1930 and 1940 changes in the crisis coefficient. The pooled estimates yield the same qualitative contrast: higher capital requirements shifted towns toward monopoly markets in the non-crisis period, whereas it leads to banklessness in the crisis-period. Columns (4) through (6) add pre-crisis town characteristics measured in 1919, before any of the four laws: leverage, the loan and deposit shares of assets, lending per capita, the number of banks, and an indicator for having no bank, each interacted with year fixed effects. The crisis estimate for banklessness is unchanged, at 13.8 percentage points per doubling with controls against 13.7 without, and the 1924 versus 1930 contrast remains significant at the one-percent level for every outcome.[15]

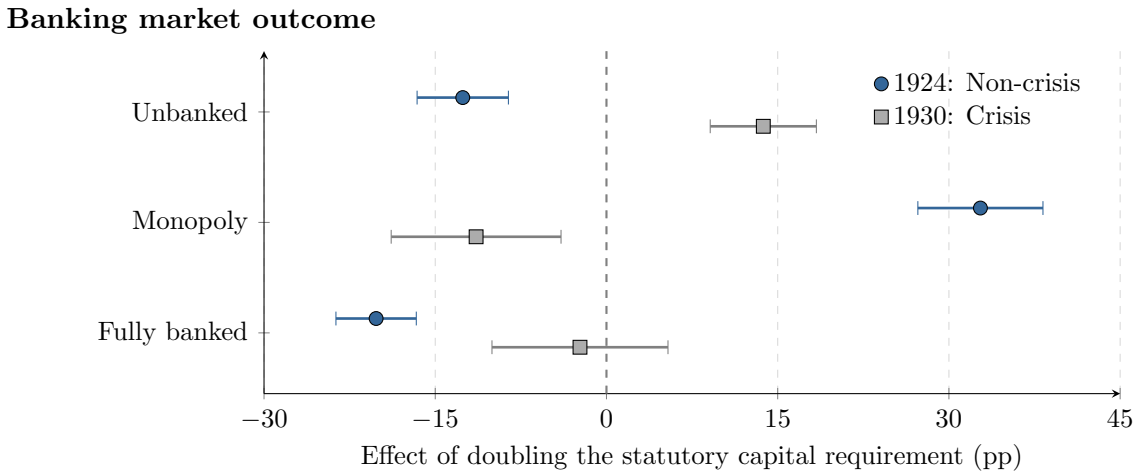
Overall, during the non-crisis period, higher capital requirements consolidated incumbent positions without reducing access but increased banklessness without preserving incumbent monopoly positions after the onset of the crisis. Bank counts, however, are only a rough proxy for the change in the access to credit due to exiting banks, replacement from entrants, and changes in lending by incumbents. Using the balance-sheet data from both state and national banks in Illinois, Figure 5b decomposes the change in aggregate county lending into the three margins of credit supplied by entering banks, credit lost with exiting banks, and changes in lending by continuing banks. We use the midpoint growth rate, which captures changes to both the intensive and extensive margins, for this decomposition. From 1924 to 1929, county lending changed little, as entry and increased lending by continuing banks offset roughly two-thirds of the -0.124 lost through exit. During the 1930s, average county lending fell to -0.659 as exits removed five times as much credit, incumbents

[15] We use scale-free pre-crisis characteristics because the statutory minimum is assigned by town population. Raw 1919 lending or capital levels are therefore highly correlated with the population margin moved by the 1930 law. Interacting those levels with year fixed effects would absorb much of the identifying variation rather than simply controlling for pre-crisis financial conditions.

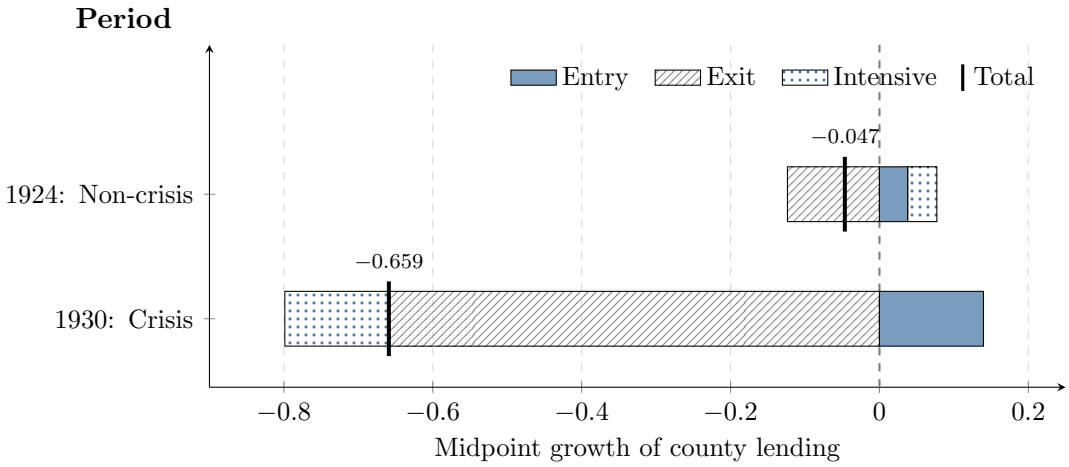
contracted rather than expanded, and entry offset less than a fifth of the combined loss.

Figure 5: Capital requirements, banking-market structure, and local credit in Illinois

(a) Banking-market outcomes



(b) Change in local credit



Notes: Panel A. The vertical axis lists three mutually exclusive banking-market outcomes, each used as the dependent variable in a separate town-year regression. For each outcome, the panel reports the coefficient on the signed log change in the town's statutory minimum capital requirement under the 1924 and 1930 Illinois laws. The estimation sample is restricted to towns observed with a bank at some point between 1918 and 1940. Coefficients and 95 percent confidence intervals are multiplied by ln(2), so they report the percentage-point effect of doubling the statutory minimum. All specifications include town and year fixed effects. Standard errors are clustered by town. *Panel B.* The panel is a descriptive decomposition of average midpoint growth in county lending, $\Delta^{mp} S_t = 2(S_t - S_{t-h})/(S_t + S_{t-h})$, over the periods governed by the 1924 and 1930 Illinois capital laws, with total growth equal to entry plus exit plus the intensive-margin change in lending by banks present at both dates. Lending covers state and national banks. Bars to the right and left of zero show positive and negative components, while the thick black vertical line marks total growth. Towns are weighted by their share of county lending, so the components aggregate to county lending.

These same patterns of the differential impact of capital requirement changes applies across the United States more broadly. We estimate equation (1) at the county-period level using our national panel. Here, ℓ indexes counties, $Y_{\ell t}$ is a change in a county banking outcome, and $T_{\ell t}$ is the county-specific change in statutory capital requirements over the preceding period. We compare

the non-crisis period of 1924 to 1928 against the crisis period of 1929 to 1936, and cluster standard errors by county.

Figure 6 plots the estimates for two measures of lost banking access. The first is an indicator for any decline in the county bank count. The second is the midpoint growth rate of the bank count, which captures how much of the local banking sector was lost at the combined extensive and intensive margins. Both are expressed on a common scale of reduced banking access, so that higher values correspond to greater contraction. The non-crisis effects are, if anything, negative, at -5.3 and -4.7 percentage points and not statistically distinguishable from zero, while the crisis effects are positive and economically meaningful, at 6.8 and 2.3 percentage points. Because the claim is that these two coefficients differ, the figure also reports their difference, estimated from the same regression so that it accounts for the covariance between them. Doubling the inherited capital requirement raises the probability of any bank loss by 12.1 percentage points more during the crisis than before it, and raises the rate of bank-count decline by 7.0 percentage points more, both significant at the one-percent level. Therefore, capital requirements that are benign in normal times substantially impede the replacement of failed banks once the crisis begins.

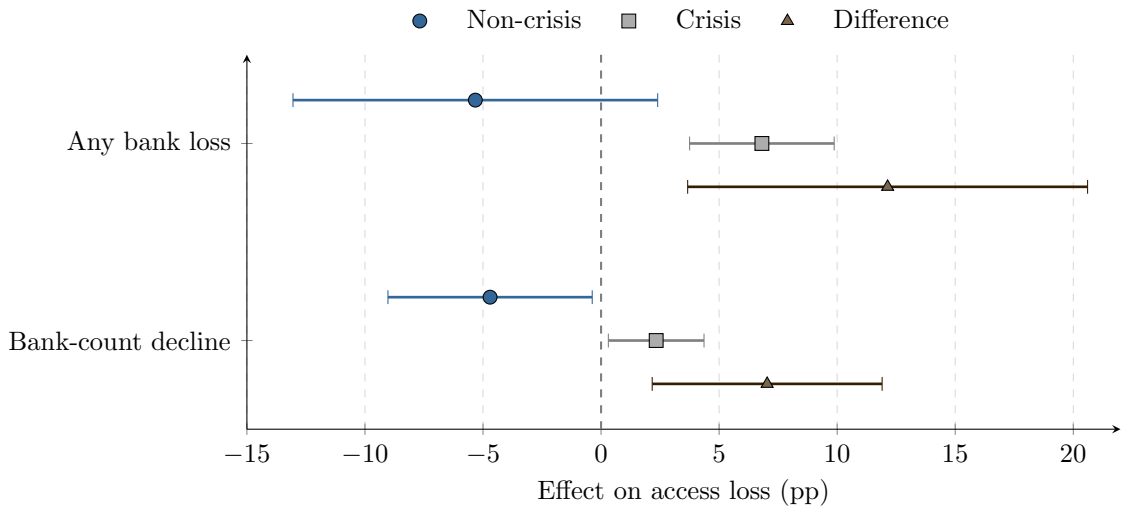
Appendix Table C.3 reports the underlying coefficients. Removing the controls leaves the crisis effects at 6.6 and 2.2 percentage points and the differences significant at the one-percent level. Replacing the county and year fixed effects with state-by-year fixed effects, so that identification comes only from differences across counties within the same state and period, leaves the crisis effect on any bank loss at 4.7 percentage points and its difference at 16.6 ($p = 0.04$); the corresponding estimates for bank-count decline fall to 1.8 and 4.0 and are no longer precisely estimated, reflecting that two thirds of the variation in capital requirements lies across states rather than within them.

We also estimate this specification at annual frequency in order to provide full transparency on the dynamics of how entry barriers impacted entry over time. For this exercise, we measure the exposure to per capita capital cost changes over the preceding four years ending the year before the outcome window. Appendix Figure C.3 reports the fully flexibly estimated annual coefficients for the two outcome variables of any bank loss and the change in bank counts, respectively. The estimates are flat or negative through 1929, and large and positive starting in the 1930s. Appendix Figure C.4 plots the variance-weighted average of the annual coefficients over the two non-crisis and crisis periods. It shows that the effects estimated in this way are quantitatively similar to those our baseline results, and even more precisely estimated.

6 From Access Losses to Regulatory Reform

In the final section, we provide empirical evidence on Prediction 3. We first use the referenda in Illinois to show that voter support for protection reversed where banking access deteriorated. We

Figure 6: Capital requirements and banking access losses nation-wide



Notes: The figure reports estimates from county-period regressions of banking access losses on the prior log change in the county median statutory capital requirement per capita. *Any bank loss* is an indicator, in percentage points, equal to one if the county bank count declined; a county with no banks in the prior period is coded as having no decline. *Bank-count decline* is the midpoint growth rate of the county bank count, $2(B_t - B_{t-1})/(B_t + B_{t-1})$, signed so that positive values denote a decline. The non-crisis period is 1924 to 1928 and the crisis period is 1929 to 1936. For each outcome the figure reports the non-crisis coefficient, the crisis coefficient, and the difference between them, the last computed from the estimated variance-covariance matrix of the same regression so that it accounts for the covariance between the two estimates. Specifications include county and year fixed effects and controls for log population, log average farm value, the share of farms under 100 acres, and the farmland Gini coefficient, all measured in the closest preceding census and standardized. Appendix Table C.3 reports the same estimates without controls and with state by year fixed effects. Bars report 95 percent confidence intervals with standard errors clustered by county. Sources: State session laws, Haines (2010), Federal Deposit Insurance Corporation (1992), Ruggles et al. (2021), Bleemer and Quincy (2026), and authors' calculations.

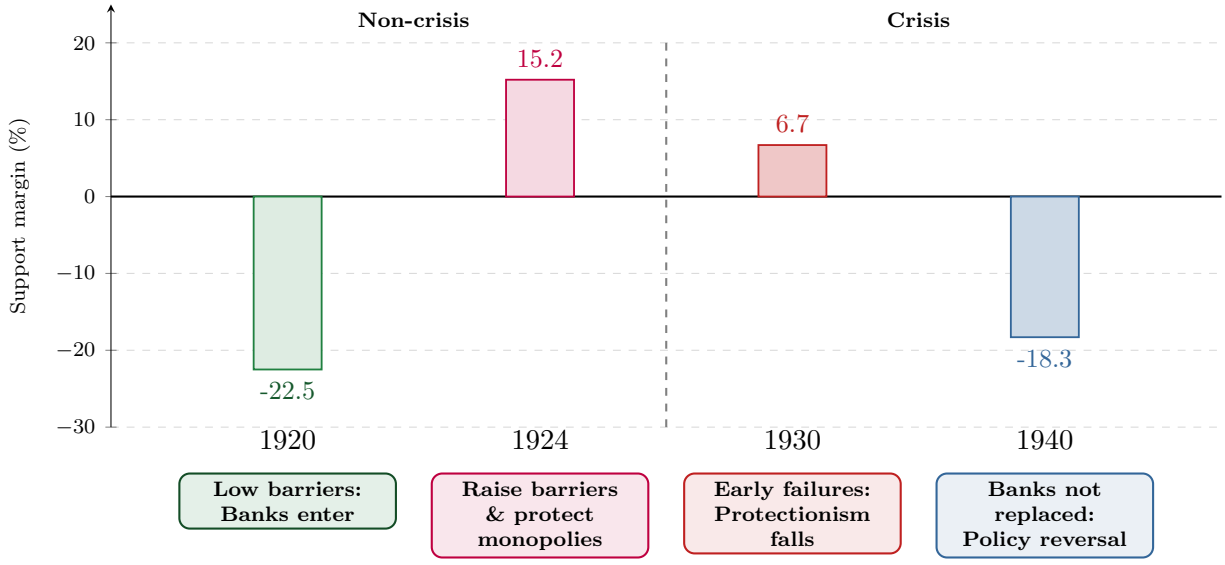
then show that, nationally, reform more broadly deregulated branching across states. We close by considering alternative explanations and the long-run persistence of Depression-era reform.

6.1 Voter reversal in Illinois

Illinois voters considered four changes to statutory capital requirements between 1920 and 1940: the 1920 referendum lowered entry barriers, the 1924 and 1930 referenda raised them, and the 1940 referendum lowered them again. Figure 7 plots the statewide margin of support for raising barriers in each election, defined as the share voting to raise barriers minus 50 percent. Support rose from 27.5 percent in 1920 to 65.2 percent in 1924, stood at 56.7 percent as the first failures arrived in 1930, and fell to 31.7 percent by 1940. We argue that the aggregate voting patterns therefore trace out how incumbent protection rose before the Depression and reversed as the banking crisis unfolded.

We now ask what drove these aggregate patterns and in particular tie the changes in local banking markets documented in Section 5.2 to changes in counties' preferences over entry barriers. Prediction 3 links a county's support for higher barriers to its exposure to the proposed law, with the sign switching between normal times and crisis. The same capital-cost exposure should therefore

Figure 7: Aggregate support for higher entry barriers in Illinois



Notes: The figure reports the statewide support margin in each Illinois bank-law referendum, defined as the share voting to raise barriers minus 50 percent. For referenda that proposed lowering capital requirements, support for raising barriers is defined as the share voting against the proposal. The 1920 and 1940 referenda lowered statutory capital requirements, while the 1924 and 1930 referenda raised them. Source: Illinois Blue Books and authors' calculations.

predict support for higher barriers before the crisis and opposition to higher barriers once failures made replacement entry more valuable.

We implement the referendum design in equation (2) at the county-by-referendum level. In this setting, $Support_{ce}$ is support for raising entry barriers in county c and referendum e, T_{ce} is the percentage change in local capital cost implied by the proposal on the ballot, $NonCrisis_e$ indicates the two non-crisis referenda, and $Crisis_e$ indicates the referenda held from 1930 onward. We include county fixed effects such that the non-crisis and crisis coefficients are identified from how the same county changed its vote as its exposure changed.

Figure 8a reports pooled county-by-referendum estimates that compare the 1920 and 1924 non-crisis referenda voting patterns to those in the 1930 and 1940 crisis period. We measure support as the share of votes in favor for raising barriers and an indicator for the majority of the county passing the measure. Overall, it shows that in the non-crisis referenda, counties more exposed to proposed capital-cost increases were more supportive of higher barriers (blue circles); in the crisis referenda, the same exposure predicts lower support (gray squares). The voting patterns are statistically significantly different for both measures of support with non-overlapping 95% confidence intervals.

Our recovery channel (Figure 3) links the reversal in Figure 8a to the loss of local banking access. As failures left more communities without banks, entry barriers increasingly hindered replacement rather than protecting a local incumbent. We therefore now provide direct evidence on whether the relationship between exposure to entry regulation and voter support depended on local banking

access. Equation (3) partitions the exposed population into places with and without a bank while controlling for the county's overall unbanked population share. Coefficients report the effect of a 10 percentage-point increase in each county population share. We first present unweighted estimates, which give each county-referendum the same weight and describe the cross-county relationship. We then present population-weighted estimates, which more closely approximate the vote-weighted political importance of each county for statewide passage. Because Cook County, which includes Chicago, accounts for a large share of the Illinois population but is largely unexposed to the capital-threshold changes, we report the weighted estimates both with and without Cook County.

Figure 8b reports the effect of exposure among unbanked places, β_U, the corresponding effect among banked places, β_B, and the difference between them. The unweighted estimates (blue circles) show that a 10 percentage-point increase in the population share living in exposed unbanked places reduces support for higher capital requirements by 3.0 percentage points, while the same increase among exposed banked places raises support by 1.9 percentage points. The difference, $\beta_U - \beta_B$, is -4.9 percentage points and statistically significant at the one-percent level.

The population-weighted estimates provide a similar view of this central contrast. With all counties including Cook (gray triangles), exposure among unbanked places reduces support by 4.5 percentage points, while exposure among banked places is small and statistically indistinguishable from zero. The difference between the two effects, however, remains negative and significant at the one-percent level. As expected, the results excluding Cook County (gray squares) are closer to the unweighted regression as the remaining counties are much more similar in size: exposure reduces support by 2.2 percentage points among unbanked places, raises support by 1.5 percentage points among banked places, and produces a difference of -3.7 percentage points. Overall, exposure to entry barriers predicts less support where banking access is absent, consistent with Prediction 3.[16]

6.2 National branching reforms

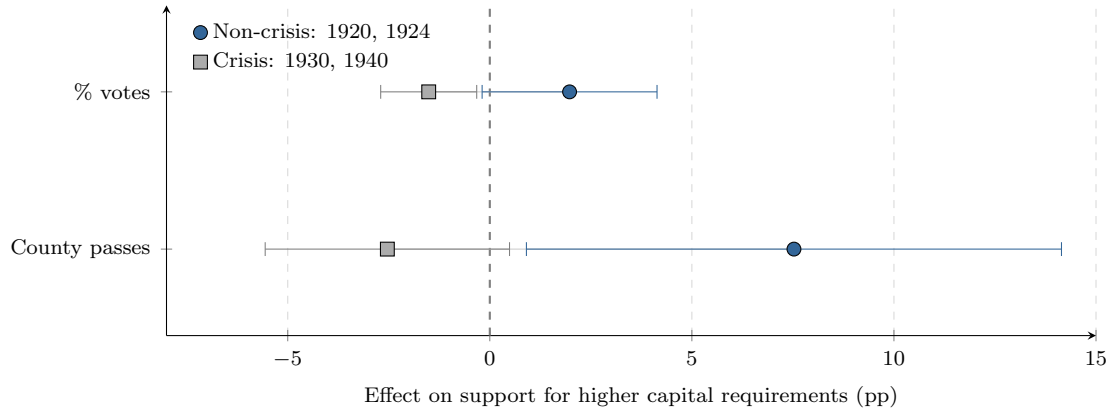
We next ask whether the political reversal documented in Illinois translated into a broader change in state banking law. Nationally, Depression-era reform did not simply undo the capital requirements adopted before the crisis. Instead, states increasingly turned to branching, a margin that could expand geographic access without lowering charter capital standards.

Figure 9a shows this deregulatory shift in aggregate with the total count of state laws that increased versus decreased branching restrictions between 1919 and 1939. Before the Depression, states changed branching law relatively infrequently, and new restrictions and new permissions moved together at low levels. Starting in the 1930s, laws relaxing branching restrictions rose sharply, while new restrictions largely disappeared. Figure 9b shows that this new access margin

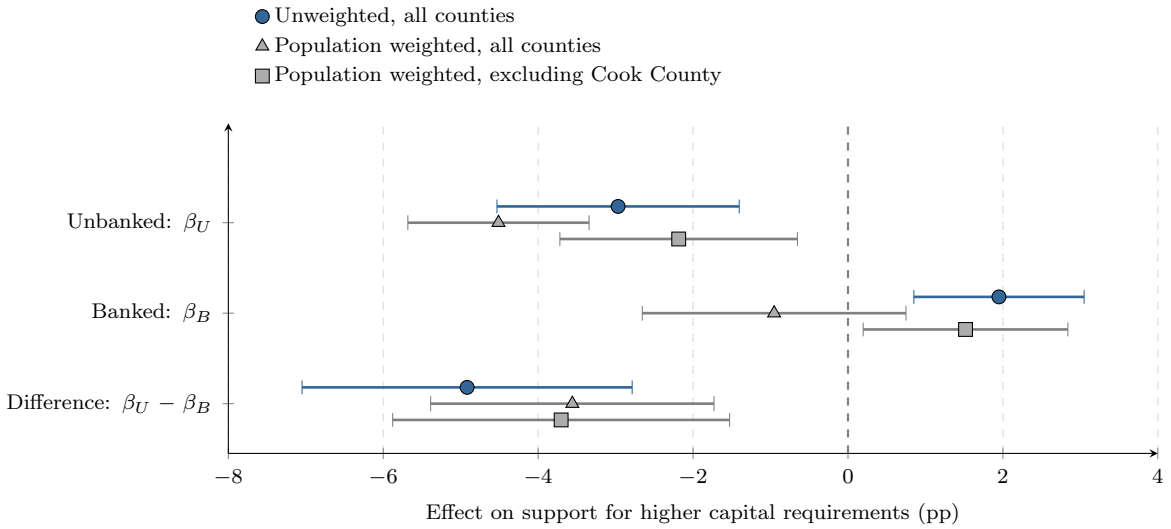
[16] Appendix Table C.4 reports all coefficients across weighting and sample choices.

Figure 8: Entry-barrier exposure and voter support in Illinois

(a) Exposure and support across crisis periods



(b) Exposure and support by banking access

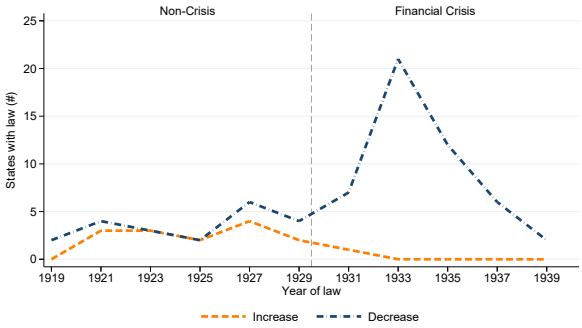


Notes: Panel A reports coefficients and 95 percent confidence intervals from pooled county-by-referendum regressions of support for higher capital requirements on proposed capital-cost exposure. The outcome is either the county vote share supporting higher capital requirements or an indicator for whether the proposal passed in the county, scaled by 100. Support is coded so that higher values always indicate greater support for raising entry barriers. The non-crisis coefficient pools the 1920 and 1924 referenda, and the crisis coefficient pools the 1930 and 1940 referenda. Estimates are scaled to a 10 percentage-point increase in exposure. Both specifications include county fixed effects, referendum fixed effects, and controls for turnout, the rural population share, population, and farm inequality, each standardized within referendum. Standard errors are clustered at the county level. Panel B reports estimates and 95 percent confidence intervals from equation (3). The dependent variable is the county vote share supporting higher capital requirements. β_U compares exposed and unexposed places among communities without a bank before the vote; β_B makes the same comparison among communities with a bank. The difference $\beta_U - \beta_B$ tests whether the relationship between exposure and support varies with banking access. Estimates are likewise scaled to a 10 percentage-point increase in the relevant county population share. All regressions include county and referendum fixed effects, the overall unbanked population share, and controls for turnout, the rural population share, population, and farm inequality, each standardized within referendum. Standard errors are clustered by county. Panel B reports unweighted estimates for all counties, population-weighted estimates for all counties, and population-weighted estimates excluding Cook County; Appendix Table C.4 reports the full set of weighting and sample choices.

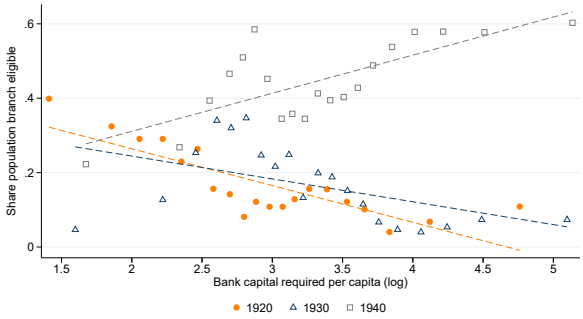
expanded toward the places where replacement by new unit banks was most costly. While in 1920 and 1930, counties with higher statutory capital costs had lower branch eligibility, by 1940, after the Depression-era wave of branching reform, the relationship had reversed such that places with the highest unit-banking replacement costs now also had the most liberal branching regulations.

Figure 9: Dynamics of nation-wide branching regulation reform

(a) State branching-law changes



(b) Branch eligibility and capital costs



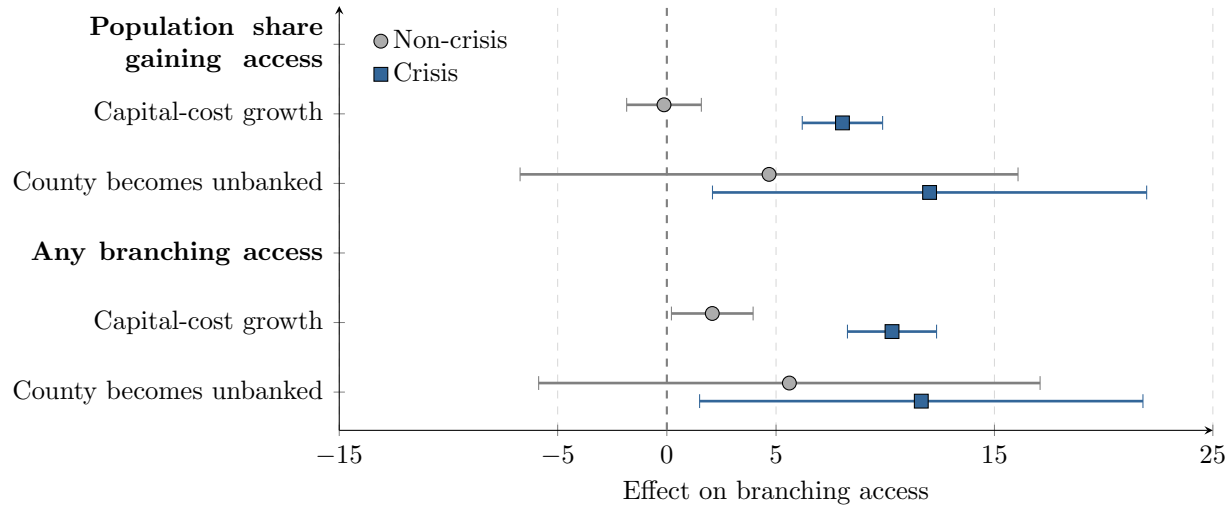
Notes: Panel A counts state laws changing branching restrictions by biennial legislative session. The orange series reports laws increasing branching restrictions, while the blue series reports laws decreasing branching restrictions. Panel B is a binscatter plot for U.S. counties in 1920, 1930, and 1940. Branch eligibility is the share of county population living in a place legally eligible to host a branch. Log bank capital per capita is the median implied minimum capital requirement per capita across incorporated places in the county. Sources: State session laws, Ruggles et al. (2021), Bleemer and Quincy (2026), Quincy and Xu (2025), and authors' calculations.

We empirically test the relationship between access failures and regulatory change by estimating equation (4) at the county-period level. Here, ℓ indexes counties, $Branching_{\ell t}$ is either the share of a county's population newly eligible for branching or an indicator that branching became legal anywhere in the county, and $T_{\ell,t-1}$ is the same ex-ante capital-cost change used in the county-level recovery tests above.

Figure 10 reports the results. Counties with larger prior capital-cost increases became substantially more likely to gain branching access during the crisis, measured as either the population share gaining access or an indicator variable for an increase in access. The estimates imply that rising capital requirements in the 1920s account for approximately half of the expansion in branching access during the 1930s.[17] Counties that became bankless show the same pattern: there is little evidence of branching reform before the crisis, but a large increase in branching eligibility during it. Branching deregulation therefore emerged as a targeted response to severe access failures, not only as an aggregate shift toward a more permissive branching regime.

[17]Multiplying the controlled any-access estimate in Appendix Table C.5 by the change in median costs and dividing by the dependent variable mean gives approximately one half of the 1930s expansion in branching access.

Figure 10: Banking access and support for branching reform



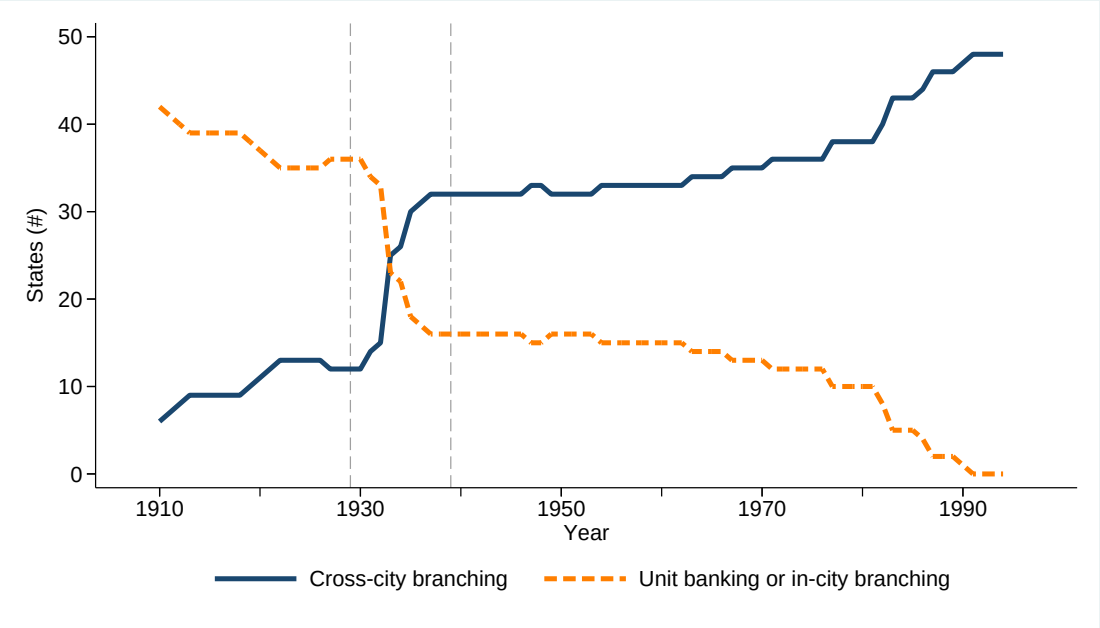
Notes: The figure plots the controlled specifications corresponding to Appendix Table C.5. Bold y-axis labels identify the outcome; the rows beneath each outcome list the explanatory variable: prior log growth in median capital requirements or an indicator that the county becomes unbanked. Population-share outcomes measure the share of county population newly eligible for branching; any-access outcomes indicate whether any place in the county becomes eligible. The capital-cost coefficients and confidence intervals are multiplied by ln(2), so they report the effect of doubling the inherited county median capital requirement. Specifications include county and era fixed effects, log population, average farm value, the share of farms under 100 acres, and the farmland Gini coefficient. Horizontal bars report 95 percent confidence intervals using standard errors clustered by county.

6.3 The long-run persistence of Depression-era reform

The regulatory changes we have documented were adopted under crisis conditions that did not last, but the regimes they created did. Before the Great Depression, entry regulation strongly favored local banking monopolies as most states either prohibited branching entirely or permitted only in-city branches, leaving surviving banks with limited ability to replace failed institutions outside their home markets. The 1930s marked a break from this system. As failures made local replacement more difficult, branching became a new way to restore bank access without relying exclusively on the chartering of new unit banks.

Figure 11 shows the dynamics and persistence of the law changes adopted in the decade around the Great Depression. The 1930s exhibits the largest change in the number of states permitting cross-city branching, with the second-closest wave only arriving several decades later in the 1970s and 1980s and ending in 1994 with the passage of the Riegle-Neal Act. The laws enacted during this decade also remained broadly stable for several decades after the crisis had passed. These crisis-induced reforms therefore became part of the institutional structure of American banking for much of the twentieth century.

Figure 11: The long-run persistence of Depression-era branching reform



Notes: The figure reports the number of states by branching regime from 1910 to 1994. Each state is classified by the most permissive branching regime available under state law in that year. Cross-city branching includes states permitting branching beyond the city of the head office. Unit banking or in-city branching includes states that either prohibited branching or permitted branches only within the same city. Vertical lines mark 1929 and 1939. Sources: State branching laws and authors' calculations.

7 Conclusion

This paper provides a new mechanism to explain how crises can both reinforce and dismantle prior policy equilibria. We reframe the interaction between regulation and crises as a *conditional* feedback loop using new data on U.S. banking markets and regulations in the 1920s and 1930s. Entry barriers that protected incumbent banks in normal times became politically unstable when failures left communities without banking access. Where replacement was blocked, voters and states moved toward regulatory change; where access could be restored under the existing rules, the prior regime persisted.

While bank failures and policy exacerbated the Great Depression through many channels (Bernanke, 1983; Calomiris and Mason, 2003; Friedman and Schwartz, 2008; Richardson and Troost, 2009; Romer, 1992), our account emphasizes the importance of the regulatory margin over entry. In this sense, the financial sector impacted the real economy not only through the lending decisions and balance-sheet fragility highlighted in boom-bust accounts (e.g. Jordà, Schularick and Taylor, 2017; Reinhart and Rogoff, 2009), but also through the regulatory structure that determined the path of recovery. The Great Depression therefore left a lasting institutional legacy not only because it was a period of unprecedented failures in financial intermediation, but also because the uneven recovery from those failures changed the rules through which banking access would be rebuilt.

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A Formal Model

This appendix develops formally the framework set out in Section 4. The model organizes the empirical cycle that we observe most completely in Illinois: voters choose whether to support entry barriers; those votes shape state regulation; regulation changes local entry costs through population-based capital schedules; local entry costs determine whether failed banks are replaced; and the resulting market structure feeds back into voter support for the next regulatory regime.

The central idea is that entry barriers have different political consequences depending on the state of the local banking market. When a town has an incumbent bank and aggregate conditions are normal, a higher entry barrier protects local rents with little immediate cost to credit access. When a crisis destroys incumbents, the same barrier prevents replacement entry and leaves the town without banking services. A crisis can therefore reverse support for the regulatory equilibrium that prevailed before the crisis.

A.1 Environment

Consider a state made up of local banking markets indexed by i. Time is discrete. In each period, the state has a regulatory regime

$$q_t = (k_t, b_t),$$

where k_t is the statutory capital schedule for new state banks and $b_t \in \{0, 1\}$ denotes whether branching is permitted into local markets. Capital requirements are set by state law, but their local bite varies across towns because the statutory schedule is a step function of town population. Let $K_i(k_t)$ denote the minimum capital required to open a state bank in town i under the state schedule. Let n_{it} denote the number of incumbent banks in town i at the beginning of period t.

The period also has an aggregate banking shock $\chi_t \in [0, 1]$, where a higher χ_t means that incumbent banks are more likely to fail. We interpret low χ_t as normal times and high χ_t as crisis. A town has access to banking services next period if either at least one incumbent survives or a new bank enters. Let $E_i(K_i(k_t), b_t)$ be the probability of replacement entry if all incumbents fail, with

$$E_K < 0, \qquad E_b > 0.$$

Higher local capital requirements deter entry, while branching makes it easier for an existing bank elsewhere to serve the town.

The probability that town i has banking access after the period is

$$\mathcal{A}_i(k_t, b_t, n_{it}, \chi_t) = 1 - \chi_t^{n_{it}} \left[1 - E_i(K_i(k_t), b_t)\right]. \tag{5}$$

The term $\chi_t^{n_{it}}$ is the probability that all incumbent banks fail. If the town has many incumbent banks or the aggregate shock is small, access is likely to continue regardless of replacement entry. If the town is a monopoly or already bankless in a crisis, access depends heavily on whether entry is feasible.

The crisis is therefore not a separate step in the regulatory cycle. It enters as the aggregate failure risk that determines how often inherited entry barriers bind as obstacles to replacement.

A.2 Voter preferences

Voters value banking access but may also value the rents and local control generated by incumbent unit banks. Let

$$R_i(k_t, b_t, n_{it}) = \rho_i(n_{it})\, r_i(K_i(k_t), b_t)$$

denote the local value of incumbent protection. We assume $r_K > 0$ and $r_b < 0$: higher capital requirements protect incumbents from entry, while branching exposes them to outside competition. The weight $\rho_i(n)$ is largest when the town has a local monopoly, smaller with multiple banks, and zero when no local incumbent remains.

The baseline model abstracts from any direct prudential value of capital requirements in order to isolate the access-rent tradeoff. In §A.5 we allow voters or policymakers to place direct prudential value on higher capital standards; the qualitative predictions below continue to hold, since this term shifts the level of support for capital requirements but does not change how crisis severity and incumbent exit affect that support.

The representative voter in town i evaluates regime (k, b) according to

$$W_i(k, b; n_{it}, \chi_t) = v_i \mathcal{A}_i(k, b, n_{it}, \chi_t) + \theta_i R_i(k, b, n_{it}), \tag{6}$$

where v_i is the value of banking access and θ_i is the political weight on local incumbent rents.

The marginal support for a higher capital requirement is therefore

$$\frac{\partial W_i}{\partial K_i} = \underbrace{v_i \chi_t^{n_{it}} E_K}_{\text{access cost of deterring replacement entry}} + \underbrace{\theta_i \rho_i(n_{it}) r_K}_{\text{incumbent protection}}. \tag{7}$$

Because $E_K < 0$, the first term is negative. Its magnitude is small in normal times when χ_t is low and the town has an incumbent bank. It becomes large when a crisis raises χ_t and when the town has few or no surviving incumbents. The second term is positive only when there are local incumbents to protect.

Thus voters support higher entry barriers when

$$\theta_i \rho_i(n_{it}) r_K > -v_i \chi_t^{n_{it}} E_K. \tag{8}$$

This inequality is likely to hold in normal times in towns with incumbent banks, especially local monopolies. It is likely to fail in crisis towns where banks have exited or where a monopoly is at risk of becoming a banking desert.

The marginal support for branching is

$$\frac{\partial W_i}{\partial b} = \underbrace{v_i \chi_t^{n_{it}} E_b}_{\text{access gain from outside entry}} + \underbrace{\theta_i \rho_i(n_{it}) r_b}_{\text{incumbent rent loss}} - c_b, \tag{9}$$

where c_b captures political or administrative costs of authorizing branch entry. Since $E_b > 0$ and $r_b < 0$, branching is opposed when incumbent rents are valuable and access is secure. It becomes attractive when crisis failures make replacement entry valuable and when the local incumbent coalition has weakened.

A.3 Regulatory choice and path dependence

State regulation aggregates local support. Let ω_i denote the political weight of town i in statewide regulation. A capital increase is adopted when aggregate support for higher capital is positive:

$$\sum_i \omega_i \frac{\partial W_i}{\partial K_i} > 0. \tag{10}$$

Branching reform is adopted when

$$\sum_i \omega_i \frac{\partial W_i}{\partial b} > 0. \tag{11}$$

The model is path dependent because the current market structure is the outcome of past regulation and past shocks. Combining equation (5) with the support conditions gives the feedback loop drawn in Figure 3:

$$(k_t, b_t) \longrightarrow K_i(k_t) \longrightarrow \mathcal{A}_i(k_t, b_t, n_{it}, \chi_t) \longrightarrow n_{i,t+1} \longrightarrow \left(\frac{\partial W_i}{\partial K_i}, \frac{\partial W_i}{\partial b} \right) \longrightarrow (k_{t+1}, b_{t+1}).$$

In normal times, high barriers can be self-reinforcing: incumbents survive, access remains intact, and voters continue to value the rents from protected local banking markets. In a severe crisis, high barriers can become self-defeating: incumbents fail, entry does not occur, access disappears, and voters switch from protecting incumbents to restoring banking services. Whether regulation reinforces or reverses therefore depends on whether the inherited regime permits recovery after

failures.

A.4 Predictions

Proposition 1 (Entry barriers are sustainable when access is intact)**.** *Support for higher capital requirements is increasing in the value of incumbent protection and decreasing in the expected cost of deterring replacement entry. In normal times, when failure risk is low and incumbent banks remain in place, entry barriers can therefore be politically sustainable.*

The result follows from equation (7). Because $E_K < 0$, the access term $v_i \chi_t^{n_{it}} E_K$ is negative, while the protection term $\theta_i \rho_i(n_{it}) r_K$ is positive when $r_K > 0$ and local incumbents exist. When χ_t is low, $\chi_t^{n_{it}}$ is small for towns with incumbent banks, so the expected cost of deterring replacement entry is limited. Support for higher capital requirements is strongest where the protection term is largest, including towns in which local banking rents are concentrated.

Proposition 2 (Entry barriers impede recovery when failures make replacement necessary)**.** *Higher local capital requirements reduce replacement entry. Their effect on observed banking access is small when incumbents survive, but large when failures make access depend on the entry of a new bank.*

Differentiating equation (5) with respect to K_i gives

$$\frac{\partial \mathcal{A}_i}{\partial K_i} = \chi_t^{n_{it}} E_K < 0.$$

The effect of capital requirements on access is therefore scaled by the probability that all incumbent banks fail. A higher capital requirement always reduces replacement entry, but that deterrent matters little for observed access when failure risk is low or when several incumbents remain. It matters sharply when the town depends on replacement after bank failures.

Proposition 3 (Failed recovery weakens support for protection and shifts reform toward branching)**.** *When failures make replacement entry valuable, support for higher capital requirements falls and support for branching rises. Branching becomes the preferred reform margin when its access gains exceed the loss of incumbent rents and the political cost of reform.*

The first part follows from equation (7). A crisis raises $\chi_t^{n_{it}}$, making the access-cost term more negative. If the crisis also destroys local incumbents, $\rho_i(n_{it})$ falls, reducing the positive protection term. The same capital requirement, evaluated by the same voters, can therefore have opposite political consequences depending on whether the inherited regime allowed the market to recover after failures.

The second part follows from equation (9). Because $E_b > 0$, branching becomes more valuable when $\chi_t^{n_{it}}$ is high and the town needs replacement access. Because $r_b < 0$, branching is more costly

when local incumbent rents are politically important. Crisis failures push these terms in opposite directions: they raise the access gain from outside entry and weaken the incumbent rents that made branching costly. Branching reform is therefore most likely where inherited capital barriers and bank failures make replacement by new unit banks difficult, and where allowing an existing bank to enter through a branch can restore access without lowering capital standards.

A.5 Extension: prudential value of capital requirements

The baseline model abstracts from any direct prudential value of capital standards in order to isolate the tradeoff between incumbent protection and replacement entry. Allowing capital requirements to have prudential value does not change the comparative statics that drive the predictions above.

Suppose voter payoffs are instead

$$W_i(k, b; n_{it}, \chi_t) = v_i \mathcal{A}_i(k, b, n_{it}, \chi_t) + \theta_i R_i(k, b, n_{it}) + \pi_i(K_i(k_t)),$$

where $\pi_K > 0$ captures the direct value of higher capital standards. The marginal support for a higher capital requirement becomes

$$\frac{\partial W_i}{\partial K_i} = v_i \chi_t^{n_{it}} E_K + \theta_i \rho_i(n_{it}) r_K + \pi_K.$$

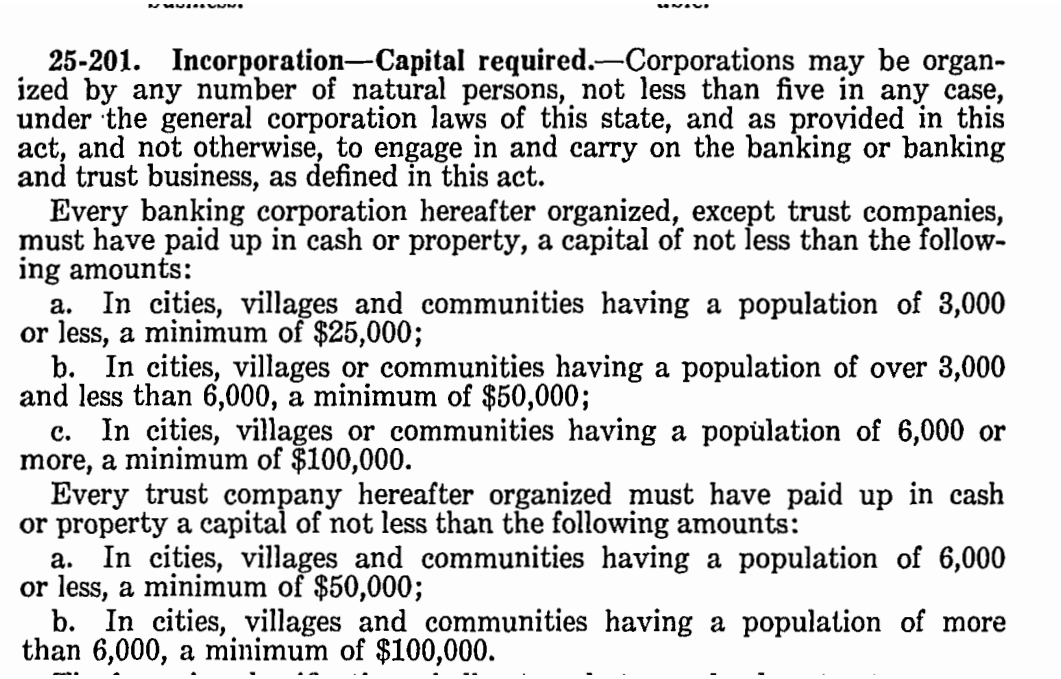
The prudential term raises the level of support for capital requirements, but it does not vary with the failure probability or with the presence of local incumbents. An increase in $\chi_t^{n_{it}}$ still makes the access-cost term more negative, and incumbent exit still reduces the protection term through $\rho_i(n_{it})$. The model therefore continues to predict that support for capital requirements falls where crisis failures make replacement entry valuable.

The extension also clarifies why reform may occur through branching rather than through a rollback of capital standards. Lowering capital requirements restores entry access but sacrifices the prudential value $\pi_i(K_i(k_t))$. Branching raises replacement access through E_b without reducing that prudential value. When capital standards have direct prudential value, branching is therefore an especially attractive crisis-era reform margin.

B Data Construction

B.1 Examples of statutory sources

Figure B.1: Sample of bank capital regulation



25-201. Incorporation—Capital required.—Corporations may be organized by any number of natural persons, not less than five in any case, under the general corporation laws of this state, and as provided in this act, and not otherwise, to engage in and carry on the banking or banking and trust business, as defined in this act.

Every banking corporation hereafter organized, except trust companies, must have paid up in cash or property, a capital of not less than the following amounts:

a. In cities, villages and communities having a population of 3,000 or less, a minimum of $25,000;

b. In cities, villages or communities having a population of over 3,000 and less than 6,000, a minimum of $50,000;

c. In cities, villages or communities having a population of 6,000 or more, a minimum of $100,000.

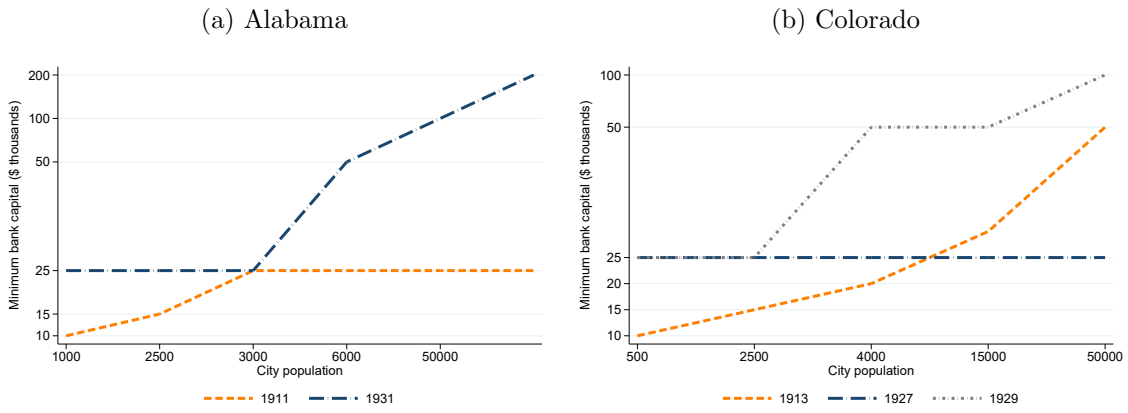
Every trust company hereafter organized must have paid up in cash or property a capital of not less than the following amounts:

a. In cities, villages and communities having a population of 6,000 or less, a minimum of $50,000;

b. In cities, villages and communities having a population of more than 6,000, a minimum of $100,000.

Notes: The figure reproduces the capital-requirement provisions from Idaho Session Laws 1925, ch. 133, §6. These laws apply to Federal Reserve non-member banks because member-bank requirements were higher. Sources: Idaho Session Laws 1925, ch. 133, §6.

Figure B.2: Sample state capital requirement time series

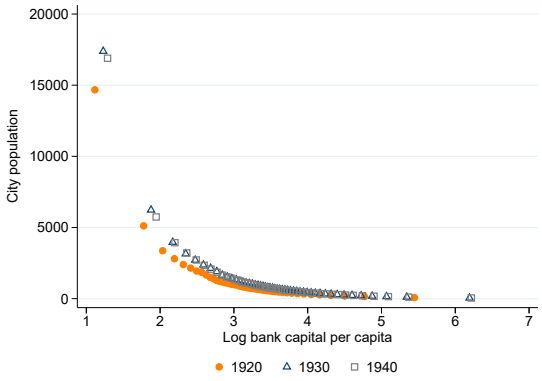


Notes: Each panel plots the statutory minimum bank entry capital implied by the active Alabama or Colorado banking law and the population of each city in the most recent preceding census for each law active between 1920 and 1940. Median population is the median incorporated-place population within each county based on the closest preceding census. See Section 3.1 for data details. Sources: Alabama and Colorado legislative session laws, Ruggles et al. (2021), Bleemer and Quincy (2026), and authors' calculations.

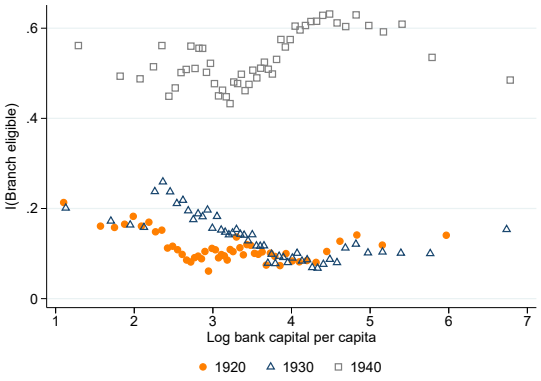
B.2 Entry-cost measurement

Figure B.3: Characteristics of city bank entry costs

(a) Population versus capital costs



(b) Branching eligibility versus capital costs



Notes: Log bank capital per capita is the log bank capital per capita in a given city in a given year. Bank capital per capita reflects the minimum bank entry capital assigned by the active state statute and most recent preceding census population, divided by that population. Branch eligibility flags whether active statutes permit branching in a given location. Cities are excluded if the state does not have minimum capital requirements. See Section 3.1 for data definitions. Sources: State session laws, Ruggles et al. (2021), Bleemer and Quincy (2026), and authors' calculations.

Figure B.4: Sample of bank branching regulation

Territorial limitations.

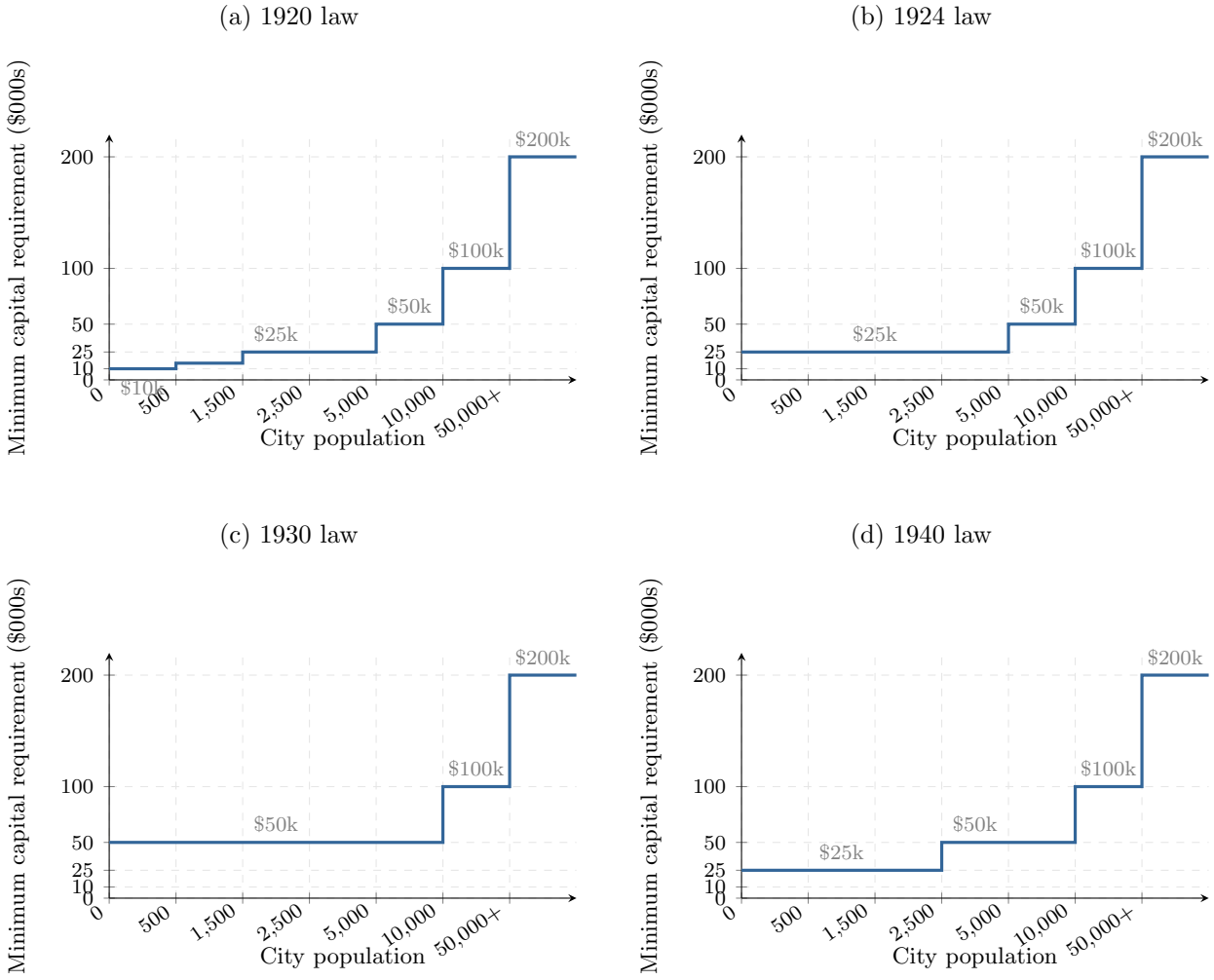
Sec. 66. Branch banks may be established within a radius of one hundred miles of the parent bank provided that no parent bank shall be permitted to establish more than fifteen branch banks; provided further that no parent bank shall be permitted to establish a branch bank in any town or city of less than 3,500 population where such town or city has one or more banks in operation.

Capital requirements for branch banking systems.

Sec. 67. All parent banks permitted to establish branch banks shall have a paid-in, unimpaired capital (exclusive of reserves and undivided profits) of not less than $100,000.00, and such minimum required capital shall be increased for each branch bank estab-lished by an amount not less than the minimum required capital for a unit bank in the municipality in which the branch bank shall be established.

Notes: The figure reproduces statutory provisions governing bank branching from Mississippi Session Laws 1934, ch. 134. Each color corresponds to a different clause governing branch entry. Sources: Mississippi Session Laws 1934, ch. 134.

Figure B.5: Illinois statutory capital requirement schedules after each referendum



Notes: The figure plots the statutory minimum paid-in capital required to charter an Illinois state bank by city population after each bank-capital referendum. Requirements are shown in thousands of dollars. Population bins are plotted as a step function using the statutory thresholds in each law; the final bin includes cities with population above 50,000. Sources: Illinois state session laws and authors' calculations.

B.3 Illinois bank-panel construction

We construct the Illinois bank panel from annual reports of the Illinois Auditor of Public Accounts. The location panel begins in 1917 and runs through 1940; the balance-sheet panel begins in 1918, the first year for which the reports provide the corresponding financial statements. The source volumes report the roster of state banks operating in each year, including each bank's name, town, and county, and the balance-sheet section reports the bank-level financial statement printed in the annual report.

The cleaning procedure has three layers. First, we convert each annual report into structured text and preserve the raw OCR output separately from the cleaned extraction files. The parser

identifies bank blocks, extracts the printed table number, bank name, town, county, and balance-sheet line items, and retains the raw label and amount attached to each line. This step also handles common formatting issues in the reports, including side-by-side tables, stacked asset and liability sections, cents printed as trailing two-digit groups, duplicate OCR blocks, and obvious OCR errors in printed bank numbers.

Second, we link banks across annual rosters. We begin with a baseline-year registry, standardize bank names and locations, and then assign stable bank identifiers using exact matches, fuzzy matches within location, cross-year matches, and manually reviewed crosswalks for name changes and consolidations. The resulting identifier, `bank_id`, is the key used for all panel merges; the printed table number is retained only as a source locator because it is reassigned each year. We do not use automatic gap-filled observations in the validated analysis panel. The final location panel contains 23,271 bank-year observations and records entry, exit, name changes, consolidations, and each bank's town and county.

Third, we harmonize the balance sheets. The extraction preserves all raw line items, then applies accounting checks and panel-based quality control to distinguish reliable values from rows requiring review. When a printed total or component fails an accounting identity, corrections are made only when the accounting residual and the bank's nearby-year history point to a single safe correction; otherwise the observation is flagged rather than silently changed. We then map line-item labels into common balance-sheet categories using a separate harmonization dictionary and create both a long line-item file and a wide bank-year panel. The harmonized balance-sheet panel contains 22,484 bank-year observations and includes assets, loans, deposits, capital, leverage, and related quality flags.

Finally, we match bank locations to incorporated places using standardized town and county strings and historical Census place crosswalks. This match allows us to aggregate banks and balance-sheet quantities to the town-year and county-year levels used in the empirical analysis. We use the linked panel to identify whether a town has any bank, whether it is served by a single local incumbent or multiple banks, whether a bank enters or exits, and how much local lending is supplied by state banks. We combine these records with the Illinois national-bank panel described in Section 3.3 to measure total local banking access and credit provision.

C Additional Tables and Figures

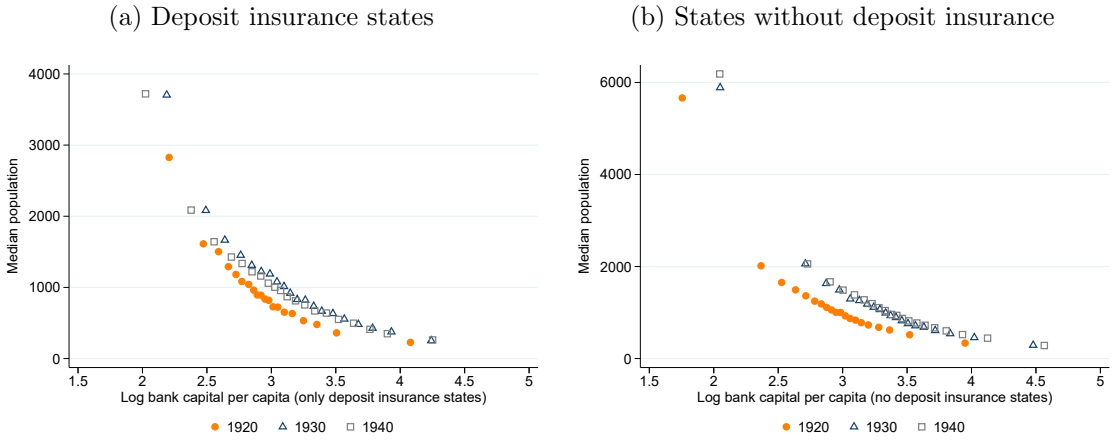
The two figures that follow re-estimate the nationwide specification behind Figure 6 at annual frequency. They address two features of the period structure used in the body. The five periods there are narrative eras of unequal length, and the capital and banking panels are recorded on different schedules, so the annual version merges the two on county and calendar year and measures

Table C.1: Changes in state bank supervision and regulation, 1919–1940

	Deregulate Capital (1)	Regulate Capital (2)	Deregulate Branching (3)	Regulate Branching (4)	Introduce Supervision (5)	End Deposit Insurance (6)
Post-WW1	3	7	9	6	4	2
Roaring Twenties	5	21	11	8	1	4
Financial Crisis	5	12	25	1	0	2
New Deal	6	4	16	0	0	0
Late Depression	0	2	8	0	0	0

Notes: The table reports the number of states passing laws that lowered or raised capital requirements or branching permissions, alongside the number of states introducing state banking departments or publishing state bank balance sheets to capture supervisory intensity (e.g., Mitchener and Jaremski, 2015) and the number of state-chartered bank deposit insurance programs that ended. No state began a deposit insurance program during this period. See Sections 3.1 and 3.3 for capital and branching data details. Sources: State session laws, Dehejia and Lleras-Muney (2007), Mitchener and Jaremski (2015), and authors' calculations.

Figure C.1: County median bank entry costs by state deposit insurance program availability



Notes: Log bank capital per capita is the median log bank capital per capita in a given county and year using 1920 population to assign capital costs based on each year's laws. Bank capital per capita reflects the minimum bank entry capital assigned by the active state statute and 1920 population, divided by the latter in each city and aggregated to the county level by taking the median in each county and year. Counties are excluded if the state does not have minimum capital requirements or if there are no incorporated places in the county in that year. We define state deposit insurance availability using the list in Wheelock (1993). See Section 3.1 for data definitions. Sources: State session laws, Ruggles et al. (2021), Bleemer and Quincy (2026), and authors' calculations.

the treatment over the four years ending the year before the outcome window, which makes the treatment strictly precede the outcome. Separately, because the county median is expressed per capita, the decennial census moves it mechanically: 96 percent of counties register a change in 1930 under the census-updating measure against 4 percent when population is held at the 1920 census. Since 1930 falls on the crisis boundary, the annual version holds population fixed so that the treatment changes only when a state statute changes. Figure C.3 allows the effect to differ in every year and Figure C.4 reports the two-period estimates under this specification.

Table C.2: Effects of Illinois capital requirements on banking-market structure

	No controls			With controls		
	(1) No bank	(2) One bank	(3) Two or more	(4) No bank	(5) One bank	(6) Two or more
Panel A. One coefficient per law						
1924 increase	-12.59^{***}	32.76^{***}	-20.17^{***}	-6.84^{***}	27.95^{***}	-21.11^{***}
	(2.04)	(2.80)	(1.79)	(2.36)	(3.37)	(2.22)
1930 increase	13.74^{***}	-11.42^{***}	-2.32	13.78^{***}	-8.19^{*}	-5.59
	(2.37)	(3.79)	(3.94)	(2.63)	(4.21)	(4.28)
1920 decrease	8.03	-42.33^{***}	34.30^{***}	5.28	-42.33^{***}	37.06^{***}
	(4.89)	(5.92)	(3.37)	(5.27)	(6.49)	(3.73)
1940 decrease	-20.35^{***}	25.89^{***}	-5.54^{**}	-19.30^{***}	23.50^{***}	-4.20
	(1.97)	(3.10)	(2.46)	(2.32)	(3.71)	(2.71)
p-value: 1924 = 1930	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Panel B. Four laws pooled into non-crisis and crisis						
Non-crisis (1920, 1924)	-10.07^{***}	20.51^{***}	-10.44^{***}	-5.13^{***}	14.30^{***}	-9.16^{***}
	(1.23)	(1.84)	(1.25)	(1.42)	(2.20)	(1.55)
Crisis (1930, 1940)	4.69^{***}	-3.32	-1.37	5.95^{***}	-1.36	-4.59
	(1.60)	(2.46)	(2.43)	(1.92)	(2.97)	(2.94)
p-value: Non-crisis = Crisis	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.164
Observations	21,275	21,275	21,275	21,275	21,275	21,275
Towns	925	925	925	925	925	925
Town fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Pre-crisis characteristics × year	No	No	No	Yes	Yes	Yes

Notes: The table reports town-year regressions of Illinois banking-market structure on the signed change in each town's statutory minimum capital requirement. The three dependent variables are mutually exclusive indicators, expressed in percentage points, for whether a town has no bank, exactly one bank, or two or more banks; the three coefficients in each panel therefore sum to zero. Panel A enters each of the four Illinois laws as a separate treatment, active over the years that law was in force (1920–1923, 1924–1929, 1930–1939, and 1940). The 1924 and 1930 coefficients in Panel A are the estimates plotted in Figure 5a. Panel B pools the four laws into a non-crisis treatment (the 1920 and 1924 laws) and a crisis treatment (the 1930 and 1940 laws). The estimation sample is restricted to towns observed with a bank at some point between 1918 and 1940. Coefficients and standard errors are multiplied by ln(2), so they report the effect of doubling the statutory minimum. Columns (1)–(3) include town and year fixed effects only. Columns (4)–(6) add pre-crisis town characteristics measured in 1919, before any of the four laws: leverage (assets over capital), the loan share of assets, the deposit share of assets, log loans per capita, the number of banks, and an indicator for having no bank. Each is interacted with year fixed effects, since a town fixed effect would otherwise absorb it. The controls are scale-free because the statutory minimum is a step function of town population: the level of 1919 lending and the level of 1919 capital correlate -0.57 and -0.61 with the population margin the 1930 law moved, so interacting either with year fixed effects removes the identifying variation rather than absorbing a confound. The scale-free characteristics used here correlate at most -0.23 with that margin. Standard errors clustered by town are in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table C.3: National capital requirements and banking access losses

	Any bank loss			Bank-count decline		
	(1)	(2)	(3)	(4)	(5)	(6)
Non-crisis	−6.28	−5.32	−11.95	−5.12**	−4.70**	−2.17
	(3.84)	(3.94)	(7.85)	(2.09)	(2.21)	(4.29)
Crisis	6.60***	6.81***	4.69**	2.23**	2.33**	1.81
	(1.55)	(1.56)	(2.13)	(1.03)	(1.03)	(1.47)
Difference (Crisis − Non-crisis)	12.88***	12.14***	16.64**	7.35***	7.03***	3.98
	(4.26)	(4.32)	(8.14)	(2.41)	(2.48)	(4.53)
Mean of dependent variable	53.9	53.9	53.8	19.3	19.3	19.4
Observations	11,734	11,722	11,737	11,523	11,511	11,534
County fixed effects	Yes	Yes	No	Yes	Yes	No
Year fixed effects	Yes	Yes	No	Yes	Yes	No
State × year fixed effects	No	No	Yes	No	No	Yes
Controls	No	Yes	Yes	No	Yes	Yes

Notes: The table reports county-period regressions of banking access losses on the prior log change in the county median statutory capital requirement per capita. *Any bank loss* is an indicator, in percentage points, equal to one if the county bank count declined; a county with no banks in the prior period is coded as having no decline. *Bank-count decline* is the midpoint growth rate of the county bank count, $2(B_t - B_{t-1})/(B_t + B_{t-1})$, signed so that positive values denote a decline. The non-crisis period is 1924 to 1928 and the crisis period is 1929 to 1936. The treatment is entered separately for the two periods, and the third row reports the difference between the two coefficients, computed from the estimated variance-covariance matrix of the same regression so that it accounts for the covariance between them. Columns (2) and (5) are the specifications plotted in Figure 6. Controls are log population, log average farm value, the share of farms under 100 acres, and the farmland Gini coefficient, all measured in the closest preceding census and standardized. Columns (3) and (6) replace the county and year fixed effects with state by year fixed effects, so that identification comes only from differences across counties within the same state and period. Standard errors clustered by county are in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table C.4: Entry-barrier exposure, banking access, and voter support

	(1) Unweighted All counties	(2) Weighted All counties	(3) Unweighted Excluding Cook	(4) Weighted Excluding Cook
A. Exposure effects by banking status				
Exposure among unbanked places, β_U	-2.968^{***}	-4.512^{***}	-2.798^{***}	-2.186^{***}
	(0.788)	(0.590)	(0.797)	(0.773)
Exposure among banked places, β_B	1.949^{***}	-0.953	2.088^{***}	1.517^{**}
	(0.554)	(0.858)	(0.543)	(0.666)
Overall banklessness, γ	2.498^{**}	3.847^{***}	2.437^{**}	2.461^{**}
	(0.991)	(1.046)	(1.007)	(1.002)
B. Difference by banking status				
$\beta_U - \beta_B$	-4.917^{***}	-3.559^{***}	-4.886^{***}	-3.703^{***}
	(1.074)	(0.922)	(1.086)	(1.096)
Observations	408	408	404	404
Dependent-variable mean	41.70	41.70	41.63	41.63
Population weighted	No	Yes	No	Yes
County fixed effects	Yes	Yes	Yes	Yes
Referendum fixed effects	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes

Notes: The dependent variable is the county vote share supporting higher capital requirements, in percentage points. β_U is the coefficient on the population share living in places that are both exposed to the referendum and without a bank before the vote; β_B is the coefficient on the share living in places that are exposed and have a bank. The overall unbanked population share is included separately. Each coefficient is scaled to represent a 10 percentage-point increase in the corresponding population share. Panel B reports the difference between the two exposure coefficients. Controls include turnout, the rural population share, population, and farm inequality, each standardized within referendum. All specifications include county and referendum fixed effects. Standard errors clustered by county are in parentheses. Columns 2 and 4 weight by county population. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

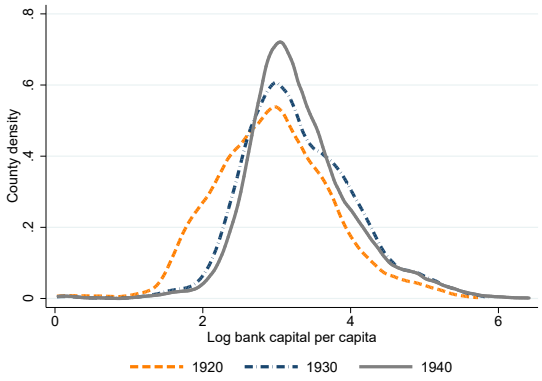
Table C.5: Banking access and branching deregulation

	Share ↑ branching access			𝕀(Branching access ↑)		
	(1)	(2)	(3)	(4)	(5)	(6)
A:%ΔCapital						
$\beta_{\text{Non-Crisis}} \times$ %ΔCapital	4.40***	4.54***	4.54***	5.10***	5.25***	5.25***
	(0.57)	(0.57)	(0.57)	(0.62)	(0.62)	(0.62)
$\beta_{\text{Crisis}} \times$ %ΔCapital	22.68***	22.64***	22.64***	29.02***	28.98***	28.98***
	(2.09)	(2.09)	(2.09)	(2.41)	(2.41)	(2.41)
Dep Var Mean	8.56	8.57	8.57	9.36	9.37	9.37
N	9,454	9,444	9,444	9,456	9,444	9,444
B: Banklessness						
$\beta_{\text{Non-Crisis}} \times \mathbb{I}(\text{Unbanked})_t$	-15.77**	-15.92**	-15.91**	-13.60*	-13.75*	-13.74*
	(7.54)	(7.68)	(7.68)	(7.55)	(7.68)	(7.68)
$\beta_{\text{Crisis}} \times \mathbb{I}(\text{Unbanked})_t$	15.48***	15.32***	15.32***	15.21***	15.05***	15.05***
	(5.74)	(5.74)	(5.74)	(5.83)	(5.83)	(5.83)
Dep Var Mean	11.48	11.49	11.49	12.49	12.50	12.51
County FE	Y	Y	Y	Y	Y	Y
Era FE	Y	Y	Y	Y	Y	Y
Population		Y	Y		Y	Y
Farm controls			Y			Y
N	7,040	7,037	7,034	7,075	7,072	7,069

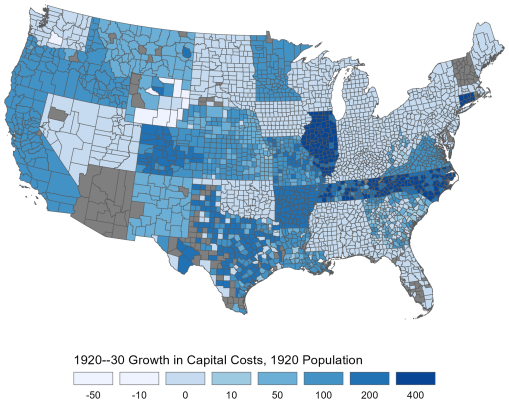
Notes: Outcomes are county level branching eligibility either as share of the county population living somewhere eligible to open a branch (Columns 1–3) or an indicator that any place in the county could open a branch (Columns 4–6). Eligibility varies by whether states permit any branching, whether branching is dependent on no banks operating in a city and/or city population in the previous census. All counties having branching at the start of the time period are omitted from the sample, as the bank data do not measure branches operating in non-headquarter bank counties. The explanatory variable is split into two mutually exclusive treatments, those in the Great Depression (1929–1936) or previously (1921–1928). The explanatory variable is the growth rate in log median bank capital per capita between the start of the prior and current eras in Panel A and an indicator for the county going from having banks during the prior period to zero banks at the start of the time period in Panel B. Controls include log population in Columns 2 and 5, and also log average farm value, the share of farms under 100 acres, the farmland Gini coefficient in Columns 3 and 6. Regression estimated using Equation 4 including county and time period fixed effects. Branching and capital laws described in Section 3.1. Bank and economic data information can be found in Section 3.3. Standard errors clustered at the county level. Sources: Illinois Blue Books, Haines (2010), Ruggles et al. (2021), Bleemer and Quincy (2026), and authors' calculations.

Figure C.2: Characteristics of county median bank entry costs fixing population in 1920

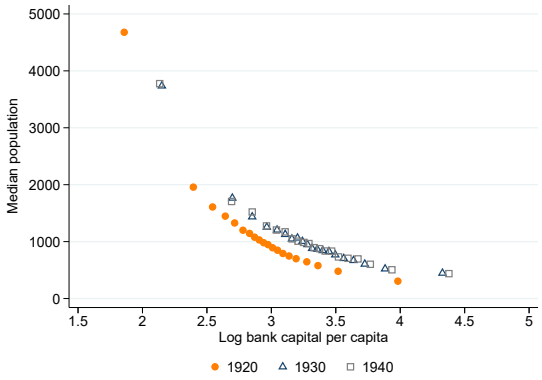
(a) Capital costs over time



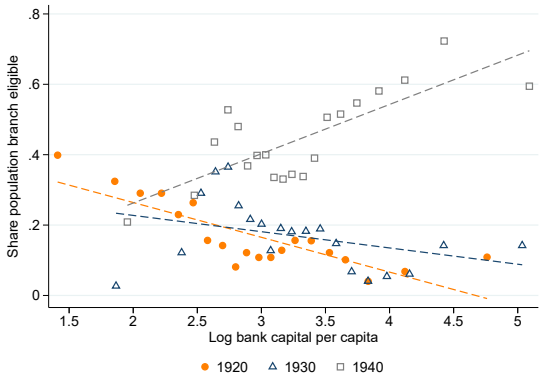
(b) %Δ capital costs, 1920–1930



(c) Population versus capital costs

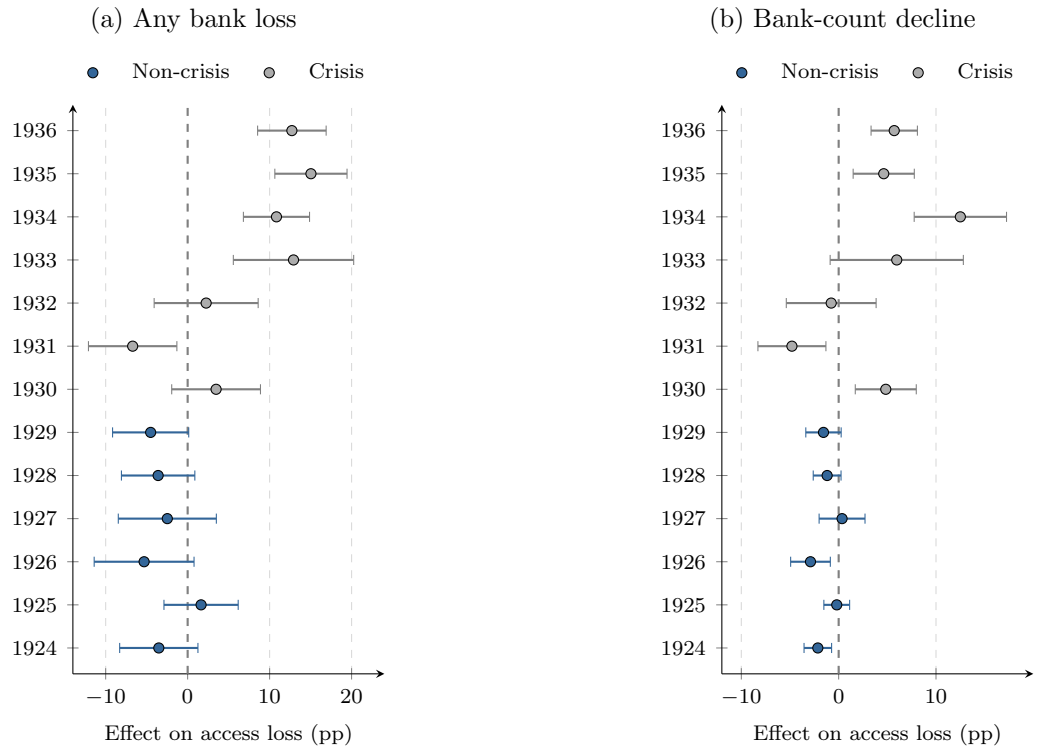


(d) Branching eligibility versus capital costs



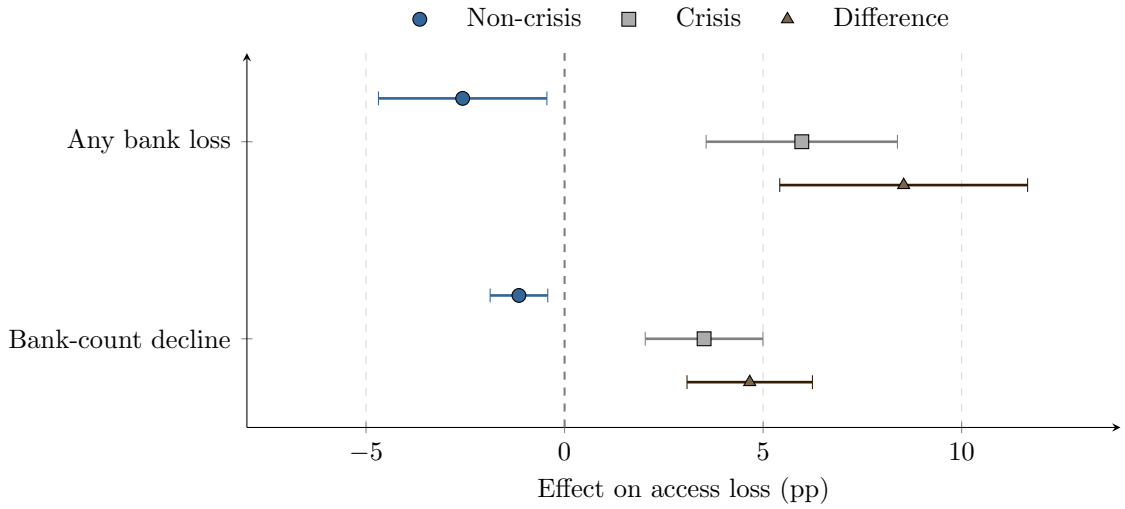
Notes: Log bank capital per capita is the median log bank capital per capita in a given county and year using 1920 population to assign capital costs based on each year's laws. Bank capital per capita reflects the minimum bank entry capital assigned by the active state statute and 1920 population estimate, divided by the latter in each city and aggregated to the county level by taking the median in each county and year. Counties in states without minimum capital requirements in 1920 are shaded gray in Panel (b). Branch eligibility flags whether active statutes permit branching in a given location using 1920 population information. Panels (c) and (d) are binscatters for all U.S. counties in each year with log bank capital per capita data. Counties are excluded if the state does not have minimum capital requirements or if there are no incorporated places in the county in that year. See Section 3.1 for data definitions. Sources: State session laws, Ruggles et al. (2021), Bleemer and Quincy (2026), and authors' calculations.

Figure C.3: National capital requirements and banking access losses, year by year



Notes: The figure re-estimates the county-period regressions behind Figure 6 at annual frequency, allowing the effect of inherited capital requirements to differ in every year rather than only between the non-crisis and crisis periods. The treatment is the change in the log county median statutory capital requirement per capita over the four years ending the year before the outcome window, so it is strictly lagged. Population is held at the 1920 census, so the treatment changes only when a state statute changes: under the census-updating measure the decennial census moves 96 percent of counties in 1930 alone. The capital and bank panels are merged on county and calendar year. Each point is a separate coefficient from a single regression that interacts the treatment with each year and includes no omitted year, so the coefficients are measured relative to a county with no inherited change in the same year rather than relative to a base year. Dark blue marks the non-crisis years and gray the crisis years. Because the two designs index time differently, the period boundary sits in a different place: Figure 6 groups whole narrative eras, so its non-crisis period ends in 1928 and its crisis period begins in 1929, whereas each observation here is a single calendar year and the crisis period begins with the first outcome year of the Depression, 1930. Moving the annual boundary to 1929 to match leaves both differences significant at the one-percent level, at 6.6 and 3.8 percentage points. All specifications include county and year fixed effects and controls for log population, log average farm value, the share of farms under 100 acres, and the farmland Gini coefficient, all measured in the closest preceding census and standardized. Bars report 95 percent confidence intervals with standard errors clustered by county. Sources: State session laws, Haines (2010), Federal Deposit Insurance Corporation (1992), Ruggles et al. (2021), Bleemer and Quincy (2026), and authors' calculations.

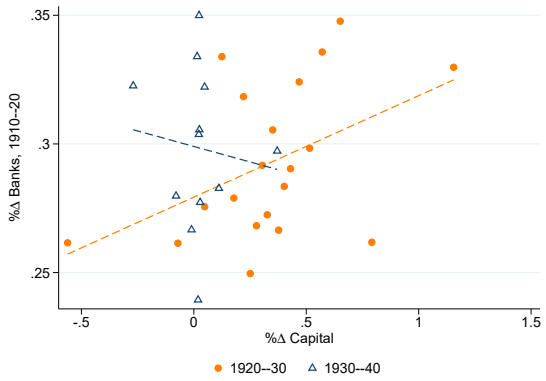
Figure C.4: National capital requirements and banking access losses, annual specification



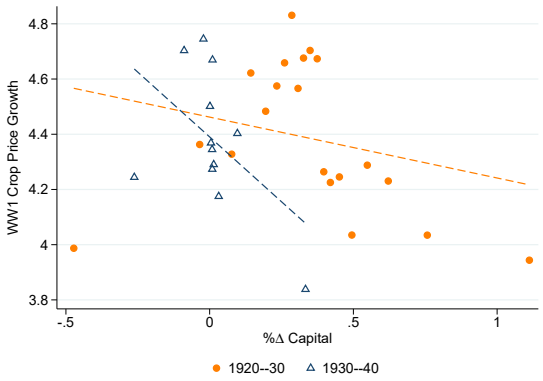
Notes: The figure repeats Figure 6 using the annual specification described in Appendix Figure C.3: the capital and bank panels are merged on county and calendar year, the treatment is the change in the log county median statutory capital requirement per capita over the four years ending the year before the outcome window, and population is held at the 1920 census so that the treatment changes only when a state statute changes. Non-crisis is 1924 to 1929 and crisis is 1930 to 1936. Because the two designs index time differently, the period boundary sits in a different place: Figure 6 groups whole narrative eras, so its non-crisis period ends in 1928 and its crisis period begins in 1929, whereas each observation here is a single calendar year and the crisis period begins with the first outcome year of the Depression, 1930. Moving the annual boundary to 1929 to match leaves both differences significant at the one-percent level, at 6.6 and 3.8 percentage points. For each outcome the figure reports the non-crisis coefficient, the crisis coefficient, and the difference between them, the last computed from the estimated variance-covariance matrix of the same regression. These two-period coefficients are a variance-weighted average of the annual coefficients in Appendix Figure C.3, with each year entering in proportion to the residual variance of the treatment in that year; because those weights are smallest in 1933 to 1935, where the estimated effects are largest, the crisis coefficient reported here is conservative relative to the annual profile. Specifications include county and year fixed effects and the same controls as Figure 6. Bars report 95 percent confidence intervals with standard errors clustered by county. Sources: State session laws, Haines (2010), Federal Deposit Insurance Corporation (1992), Ruggles et al. (2021), Bleemer and Quincy (2026), and authors' calculations.

Figure C.5: Correlation between county median bank-entry-cost growth and 1910s shocks

(a) %Δ Banks, 1910–1920



(b) World War I crop boom



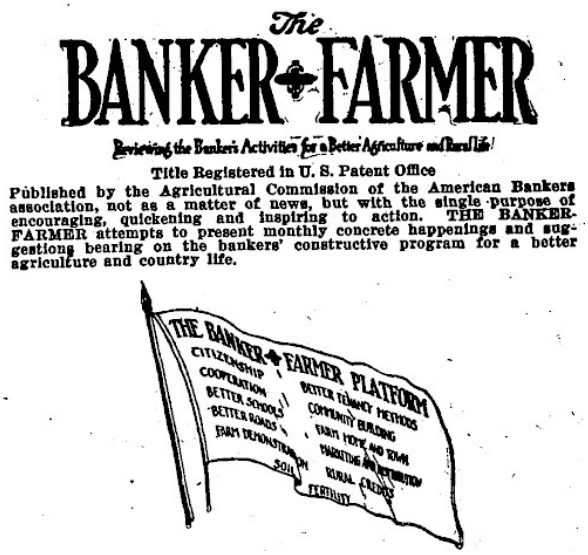
Notes: Log bank capital per capita is the median log bank capital per capita in a given county in a given year using 1920 population to assign capital costs based on each year's laws. Bank capital per capita reflects the minimum bank entry capital assigned by the active state statute and 1920 population, divided by the latter in each city, aggregated to the county level by taking the median in each county and year. Counties are excluded if the state does not have minimum capital requirements or if there are no incorporated places in the county in that year. The y-axis variables are from Rajan and Ramcharan (2015) and are measured at the county level. See Section 3.1 for data definitions. Sources: State session laws, Ruggles et al. (2021), Bleemer and Quincy (2026), and authors' calculations.

D Historical Evidence on Banking Legislation

D.1 Political language in the branching debate

Figure D.1: Contemporary rhetoric around local banking and branch banking

(a) *The Banker-Farmer*, 1921



The
BANKER-FARMER

Reviewing the Banker's Activities for a Better Agriculture and Rural Life

Title Registered in U. S. Patent Office

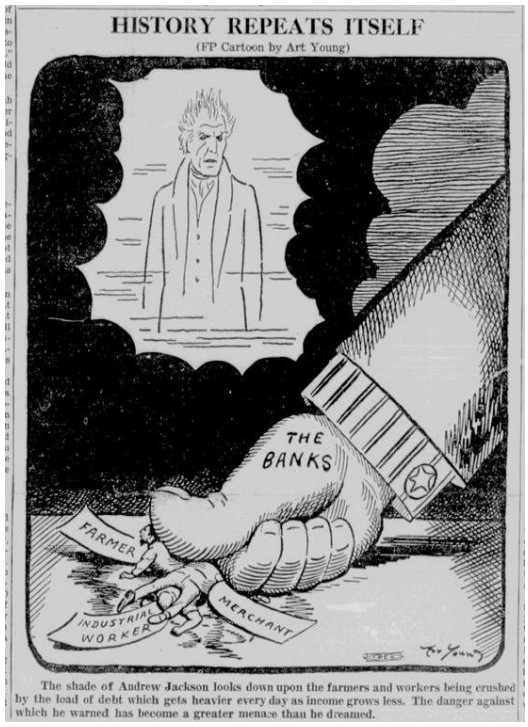
Published by the Agricultural Commission of the American Bankers association, not as a matter of news, but with the single purpose of encouraging, quickening and inspiring to action. THE BANKER-FARMER attempts to present monthly concrete happenings and suggestions bearing on the bankers' constructive program for a better agriculture and country life.

(b) *Bankers' Magazine*, 1930

LESS than a year ago the Comptroller of the Currency, in addressing the Maryland Bankers Association, said:

"If I were asked to pick out a single type of institution which has contributed most to local community independence and thereby to the foundation of our national development, I should choose the unit bank. It is the most representative of the genius of the American people."

(c) *American Guardian* cartoon, Oklahoma, 1933

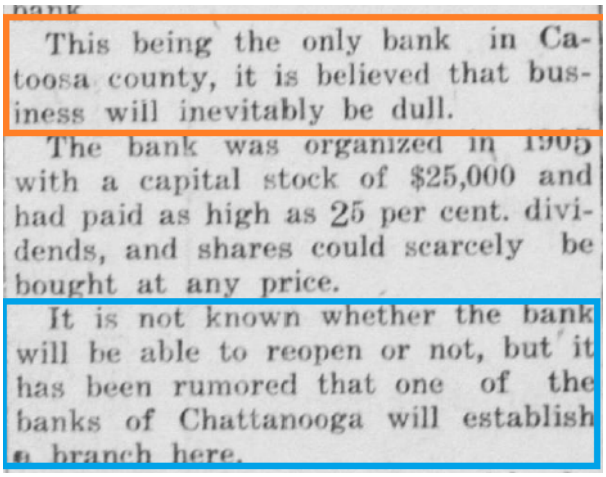


Notes: The figure reproduces contemporary examples of the political language surrounding local banking, unit banking, and branch banking. Panel (a) shows the masthead of *The Banker-Farmer*, a rural banking publication that linked local bankers and agricultural interests. Panel (b) reproduces an excerpt from *Bankers' Magazine*. Panel (c) reproduces a 1933 cartoon from the *American Guardian* in Oklahoma. Sources: *The Banker-Farmer* (1921), *Bankers' Magazine* (1930), and *American Guardian* (1933).

D.2 A rural newspaper across the crisis

Figure D.2: A rural Georgia newspaper before and during the Great Depression

(a) *Summerville News*, March 3, 1927

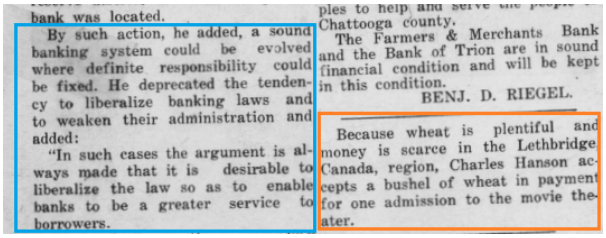


This being the only bank in Catoosa county, it is believed that business will inevitably be dull.

The bank was organized in 1905 with a capital stock of $25,000 and had paid as high as 25 per cent. dividends, and shares could scarcely be bought at any price.

It is not known whether the bank will be able to reopen or not, but it has been rumored that one of the banks of Chattanooga will establish a branch here.

(b) *Summerville News*, February 12, 1931



bank was located.

By such action, he added, a sound banking system could be evolved where definite responsibility could be fixed. He deprecated the tendency to liberalize banking laws and to weaken their administration and added:

"In such cases the argument is always made that it is desirable to liberalize the law so as to enable banks to be a greater service to borrowers.

ples to help and serve the people
Chattooga county.

The Farmers & Merchants Bank and the Bank of Trion are in sound financial condition and will be kept in this condition.

BENJ. D. RIEGEL.

Because wheat is plentiful and money is scarce in the Lethbridge Canada, region, Charles Hanson accepts a bushel of wheat in payment for one admission to the movie theater.

Notes: The figure reproduces newspaper excerpts from *The Summerville News* in Georgia. Panel (a) reports on the local effects of the closure of the only bank in Catoosa County in 1927. Panel (b) reports on the case for liberalizing banking law in 1931, after the Depression had made the replacement of failed banks more difficult. Sources: *The Summerville News*, March 3, 1927 and February 12, 1931.