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ABSTRACT

A nationwide banking panic forced President Franklin Roosevelt to declare a banking holiday in March 1933. The government reopened sound banks sequentially. Within weeks, 11,000 of the nation's 18,000+ banks had reopened. Another 1,500 reopened over the next three months. A bank-level database reveals the public responded to signals sent by regulators' actions. Rapidly reopened banks received more deposits than banks that reopened a few weeks later. The stigma of late reopening lasted through the decade. While these events shifted substantial resources from stigmatized to lauded banks, the shifts had no measurable impact on the rate at which localities recovered.

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> "A question you will ask is this—why are all the banks not to be reopened at the same time? The answer is simple. Your government does not intend that the history of the past few years shall be repeated….We do not want and will not have another epidemic of bank failures.… Let me make it clear to you that if your bank does not open the first day you are by no means justified in believing that it will not open. A bank that opens on one of the subsequent days is in exactly the same status as the bank that opens tomorrow."
>
> Fireside Chat "On the Banking Crisis", March 12, 1933

1. Introduction

During banking panics, policymakers seeking to stem the stampede must convince investors that their funds are safe (Gorton and Tallman 2018). This task often involves rapidly responding with unique solutions to novel circumstances. Following the failure of Lehman Brothers in 2008, for example, the federal government rushed to aid and guarantee liabilities at financial firms in afflicted sectors, even those which had hitherto been lightly regulated and ineligible for assistance. Following the failures of Silicon Valley and Signature Banks in March 2023, the federal government quickly reassured depositors that the FDIC would repay funds in full regardless of whether they were insured. The necessity and impact of these across-the-board, treat-all-firms-and-depositors-equally interventions are the subject of debate. In 2008, leaders of the federal response argued that the rescue had to be universal to prevent the stigma of assistance from slowing the recovery of institutions identified as weaker, reallocating funds across the financial system, and impacting the recovery of commerce and industry. Many scholars – including Chang and Velasco (2000), Lacker (2008), Farhi and Tirole (2012), Chari and Kehoe (2016), and Keister (2016) – argue that such generous and unconditional assistance can be pernicious because expectations of bailouts – particularly those not conditioned on pre-panic behavior – incentivize risk-taking and engender financial instability.[1] Yet no evidence exists that

[1] Acharya et al. (2014) also show that government bailouts can lead to sovereign debt risk which weakens the financial sector by eroding the value of its government guarantees and bond holdings.

signals sent by triaging depositories and targeting assistance at those in need through no fault of their own would have substantial (or any) effects.

The debate continues because the counterfactual – a potentially stigma inducing intervention during a systemic crisis – has not been observed in OECD economies in recent generations. Systemic crises seldom occur and policymakers' fear stigma to such an extent that rescue packages have been designed to prevent stigma from arising. Policymakers' suppositions about stigma, in other words, lead them to implement policies that prevent researchers from testing the beliefs justifying those policies. To shed light on this debate, we analyze the most recent federal intervention during a systemic banking crisis that could have sent signals about the financial health of participating banks. Occurring at the nadir of the Great Depression in March 1933, the federal government ordered all depositories in the United States to cease operations and then over time authorized individual banks to reopen. This Bank Holiday was the largest federal intervention into the financial system ever and marked the end of Great Depression's bank runs and beginning of the economic rebound. The Roosevelt Administration worried that their plan of action – which reopened healthier banks sooner and weaker banks later – might stigmatize banks. Since they could not prevent the date of a bank's reopening from being easily observed, the President and his staff took every opportunity to reassure depositors that banks which reopened in one week and banks which reopened in the next week were safe.

The concerns of President Roosevelt and Treasury officials during the Bank Holiday were similar to those of federal officials during the Global Financial Crisis (GFC). During the GFC, regulators worried that banks receiving government assistance would lose the confidence of market participants (this "bank stigma" is distinct from "facility stigma", where financial institutions become reluctant to seek assistance from government programs that might publicize

their need for assistance). Bank stigma was a litigious topic during the GFC. In a lawsuit brought by Bloomberg over the identities of banks receiving emergency liquidity, the Federal Reserve argued that the revelation would stigmatize those banks, leading to a loss of public confidence in them and a withdrawal of market sources of liquidity (*Bloomberg L.P. v. Bd. of Governors of Fed. Reserve Sys*., 649 F. Supp. 2d 262, 266, S.D.N.Y. 2009). The Bank Holiday embodies bank stigma because participation was mandatory (i.e., all banks had to participate), targeted (i.e. banks received different treatments based upon their financial health), and observed by all depositors as well as all other financial market participants.

Research on the Bank Holiday of 1933 has been limited due to data and methodological constraints. Most studies of the Holiday (e.g., Park 1991, Silber 2009, Dighe 2011, and Conti-Brown and Vanatta 2021) use narrative accounts to argue why the Holiday calmed depositors but do not test their theories or discuss the intervention's potential for stigma. To overcome the previous constraints and examine the role of stigma, we construct a detailed quantitative history of the Holiday. Primary sources provide a data panel containing the balance sheets of all U.S. commercial banks before the onset and after the conclusion of the event. We supplement this with archival information documenting the timing and nature of the interventions that allowed commercial banks to resume routine operations. We first test why and how regulators determined which banks to reopen at what date. We then examine how balance sheets evolved given the date and terms of their reopening. Finally, we ask whether differential treatment of banks during the rescue – including signals concerning banks' health – impacted the economic recovery.

The date of reopening was a signal readily observed by the public. Our regressions reveal that rapid reopening signaled banks' health to market participants. Later reopening signaled weakness. The signals were in part informative. They revealed information hitherto privately

possessed by regulators and bankers since decisions about reopening dates were based in part upon that information. Our regressions show that larger banks and those with higher reserves and capital buffers were more likely to be quickly reopened. The signals, however, also contained noise, since regulators had limited time and information to determine which banks should reopen. Regulators also had objectives other than bank health, such as rebooting the payment system or satisfying political supervisors, that induced them to reopen some weak banks early.

These noisy signals had lasting consequences. Even studious depositors only had access to coarse balance sheet information on a bank because reports by the Federal and state regulatory authorities gave no information on the income statement, quality of management, loan loss provisions, or other factors used to judge bank safety today. Coupled with a general lack of financial literacy, it makes sense that people took early reopening as a strong signal of unobserved bank quality. The signals induced funds to flow toward rapidly reopened banks regardless of other observable information about their financial health. Relative to late reopeners, banks that reopened rapidly increased in size (i.e., total assets and deposits increased) and functioned more effectively as intermediaries (i.e., leverage as fraction of assets increased while holdings of reserves dropped back to pre-Depression levels). The typical balance sheet ratios used by savvy depositors (i.e., reserves and leverage) to detect bank security still predict deposit growth, but their effect is small compared to the signal of quick reopening. These changes in bank balance sheets last through the 1950s and cumulated to the county level.

Since the signals and stigmas sent by the pace of reopening shifted funds both within and across towns and counties, we test how they influenced a wide range of county-level economic measures – including retail sales, wholesale sales, value added by manufacturing, and the number of tax returns filed by high-income individuals. A wide range of empirical and

theoretical studies (e.g., King and Levine 1993; Jayaratne and Strahan 1996; Cetorelli and Gambera 2001; Beck and Levine 2004; Beck et al. 2010; Chodorow-Reich 2014; Gilje et al. 2016; Mian et al. 2020; Baron et al. 2021) would imply that regulators choosing to open fewer banks after the Bank Holiday would have led to lower subsequent economic growth. However, for both the initial phase of recovery from 1933 to 1935 and the longer term from 1933 to 1939, we find no relationship between early reopening (and the inflow of funds that this induced) and the pace of economic recovery. The government instead took steps to make sure loans and payment services continued to function efficiently despite the reduced number of banks.

Our statistical analysis, therefore, yields novel conclusions about the Bank Holiday in 1933 and rescues of banking systems in general. During the FDR's Holiday, depositors responded to policymakers' actions that signaled banks' health. The stigma of late reopening had a large impact on banks' balance sheets and substantially shifted deposits across banks and financial-resources across communities. It had, however, much less of an effect on the rest of the economy. In this way, the Bank Holiday suggests that the conventional wisdom of having across-the-board interventions during financial crises to avoid stigma may not be necessary, because the targeted treatment of banks in distress, which limits moral hazard in the long run, do not appear to reduce commercial or industrial activity at any time horizon.

Our paper sheds light on the literature focused on how financial panics can be ended. Studies have examined tools available for stopping runs (e.g., Calomiris et al. 2004; Cecchetti et al. 2009; Boissay et al. 2020), but as highlighted by Gorton and Tallman (2018), these tools are often not suited for quickly changing the opinions of depositors, especially when a crisis is already in action. For instance, these actions did not stop runs from occurring during the GFC and even the recent 2023 crisis. Further, such government intervention has been shown to

introduce moral hazard (e.g., Acharya and Yorulmazer 2007; Diamond and Rajan 2012). Similar to currency depots in the 1920s (e.g., Carlson et al. 2011), the Banking Holiday was targeted at the confidence of depositors rather than propping up the losses of banks. By cutting through the asymmetric information problem, the Holiday put the nation on solid financial footing allowing funds to flow back to banks without the typical drawbacks of government intervention.

Along the same lines, our study of the Bank Holiday relates to policy discussions about stress tests during the GFC. Timothy Geithner, the former President of the New York Federal Reserve and then Secretary of the Treasury, credits stress tests as improving capital, reassuring the public, and helping the crisis subside. Subsequent research (e.g., Petrella and Resti 2013) confirms that they restored public confidence in financial institutions, and that some public release of information could be optimal (e.g., Leitner and Williams 2023). Similar to the Bank Holiday, Geithner (2014, p. 286) states that the stress tests "aimed to impose transparency on opaque financial institutions and their opaque assets in order to reduce the uncertainty that was driving the panic. It would help markets distinguish between viable banks that were temporarily illiquid and weak banks that were essentially insolvent." Thus, our analysis of the Holiday introduces new perspectives on full system exams, as opposed to just the largest institutions, as well as micro-level information on how depositors respond.

The transparency of the Bank Holiday's reopening decisions provides a new perspective on the stigma literature. Given the explicit avoidance of bank stigma by policymakers, the modern literature has generally focused on facility stigma. For instance, it has been discussed with regard to the Discount Window (Peristani 1998; Furfine 2001; Afonso et al. 2011; Armantier et al. 2015; Ennis 2019) and the Primary Dealer Credit Facility (Copeland et al. 2014; Krishnamurthy et al. 2014). The smaller bank stigma literature has studied emergency liquidity

programs for banks and the public's perception of particular banks needing emergency assistance (Anbil 2018; Vossmeyer 2019; Anbil and Vossmeyer 2021). While all banks were closed during the Holiday, which should reduce the stigma problem, the timing of reopening proved otherwise. Despite Roosevelt's assurances, the public perceived the duration of closure as a signal of bank health. Our results shed light on the market scrutiny that banks faced for longer closures, much like the market scrutiny banks faced for receiving emergency assistance. The Holiday presents an important difference, however, because the closures were mandatory, removing any selection complications due to a bank's participation decision and allowing us to examine unintended stigma from regulators' actions.

Finally, the paper helps us better understand the path of the Great Depression. Authors have pointed to the role that deposit insurance (e.g., Freidman and Schwartz 1963), changing inflation expectations (e.g., Hausman et al. 2019), and gold restrictions (e.g., Romer 1992) had on the economic rebound, but this study shows that the Banking Holiday helped to put the nation back on a firm financial footing before these events occurred. The reopening of banks was met with public confidence and a surge of deposits back into the system. Similar to Pedemonte (*forthcoming*) who shows that Roosevelt's 1935 fireside chat impacted consumer confidence, Roosevelt's rollout of the plan was likely a necessary feature in restoring depositor confidence. Additional actions by Roosevelt, Congress, and the Fed thus might have been more effective at accelerating the country out of the Great Depression because the Banking Holiday had stabilized the financial system. We provide evidence for the assertions of Park (1991), Silber (2008), and Conti-Brown and Vanatta (2021) and context to studies that emphasize later channels for influencing depositors' beliefs about financial stability (e.g., Sargent 1983, Temin and Wigmore 1990, and Eggertsson 2008).

2. Panic and Holiday

The banking panic in the winter of 1932/1933 was the most severe in U.S. history, draining over twenty percent of deposits from the financial system. It forced commercial banks, savings depositories, investment firms, stock markets, Federal Reserve banks, and other financial institutions to cease operations, and it compelled local, state, and eventually the federal government to take aggressive actions. It was the culmination of the economic contraction that began in 1929 and the series of banking crises that began in 1930. The specific impetus for the mother of all banking crises remains in dispute. Accounts attribute its onset to political uncertainty following Roosevelt's election in November 1932, to fears that the new administration might abandon the gold standard, to a run on the dollar driven by domestic and international concerns, to widespread malaise after the three worst economic years on record, to the failure of banks controlled by the Ford conglomerate, or to mistakes made by regulators and politicians trying to manage the Ford situation (Mitchener and Richardson 2019). The crisis culminated on March 3, 1933, when the New York Federal Reserve Bank's gold reserves fell to their legal limit, and it indicated that it would not open for business the next morning. In response, New York Governor Herbert Lehman declared a state-wide holiday starting on March 4, 1933, and President Roosevelt declared a nationwide bank holiday starting on March 6, 1933.

The administration acted rapidly to reopen the financial system. The Emergency Banking Act passed on March 9. The act strengthened federal regulation of the banks and allowed the Treasury to provide funds to assist financial institutions and to close or reorganize unsound banks. The act empowered the Secretary of the Treasury to issue licenses that allowed banks to reopen. Banks were to be divided by regulators into three categories: banks that were solvent and

safe, banks that were insolvent or weakened but were capable of reopening after reorganization or recapitalization; and banks that were insolvent and would not be allowed to reopen.

Roosevelt communicated his plan directly to the American people during his first Fireside Chat on March 12. He explained that most banks would be solvent if the public once again trusted them with their funds. In his view, the public had pulled their funds from banks due to fear and misinformation, saying they had been "stampeded by rumors or guesses." The prolonged reopening process was necessary to "permit the banks to make applications for necessary loans, to obtain currency needed to meet their requirements and to enable the Government to make common sense checkups." He promised that only sound banks would reopen, and they would be supported by the government.[2] While some banks would open before others, he emphasized that a "bank that opens on one of the subsequent days is in exactly the same status as the bank that opens tomorrow." Roosevelt's comments to the entire nation and memoirs of principals such as Awalt (1969) and Jones (Jones and Angly, 1951) make it clear that regulators were concerned over potential stigma.

Outside of these assurances, little was communicated to the public about how regulators decided which banks to reopen, reorganize, or liquidate. The reopening process proceeded gradually. On March 13, licensed banks in the twelve Federal Reserve Bank cities were allowed to be reopened. On March 14, licensed banks in the over 250 cities with clearinghouses were allowed to be reopened. On March 15 and thereafter, licensed banks in other locations could reopened. The tasks of recapitalizing, restructuring, and liquidating banks found to be unsound were pushed back in order to allow proper time for those processes to play out. Reopening decisions were decentralized based on the regulator in charge of the bank along with help from

[2] The Fed was allowed to issue Federal Reserve bank notes secured by US obligations or any notes, drafts, or bills they acquired. Further, reopened banks were allowed to issue preferred stock that could be purchased by the RFC.

the Treasury and the Reconstruction Finance Corporation (RFC). The Office of the Comptroller of the Currency (OCC) and Federal Reserve were responsible for national banks and state Fed member banks. Each state's banking authority was responsible for their state non-member banks.

Table 1 shows that 81% of Fed member banks and 64% of state non-member banks were allowed to reopen on an unrestricted basis by the end of March. Another 1,500 additional banks were fully licensed to reopen by the end of June. Most late reopeners were state non-member banks. The table also makes clear that there was a middle ground for state banks not mentioned by Roosevelt: restricted reopening. While national banks that had not reopened by March 16 were placed in the hands of conservators, many states passed laws that allowed their state-chartered banks to reopen subject to restrictions on the withdrawal of existing deposits and provision of loans. In Massachusetts, for instance, banks were initially required to limit withdrawals to $10 for the purpose of food, fuel, and medicine (*Boston Globe*, March 16, 1933). The amounts of these restrictions varied across states. Some had been put in place during the state-specific suspensions before the national bank holiday. In most cases, restricted banks could still receive new deposits that were not subject to withdrawal limits. Several states used the approach extensively, while others did not utilize it at all. Table 1 shows that almost 2,200 state banks were allowed to reopen under restriction during March, but only about half of all states permitted reopenings with restrictions. When the dust settled, around 4,000 banks either closed permanently or had to be substantially recapitalized before reopening.

Reopenings that did occur were met with a strong positive public response. Deposits came flowing back into the banking system immediately. Between March 4 and 15, $370 million in gold coin and gold certificates were deposited, which was more than all that had been

withdrawn during 1933. In the second half of March, another $260 million was returned (Federal Reserve Board 1934, p. 15).

Banks that survived the winnowing during the Holiday also changed their behavior. The Federal Reserve Board (1933, p. 209) reported that member banks reduced borrowing at Reserve Banks by $1 billion between March 4 and April 5. Banks increased lending and reduced the proportions of funds held as reserves. Bankers acted as if they expected depositors to refrain from running on banks and firms' prospects to improve. Investors throughout the nation concurred. The stock market soared. The Dow Jones Industrial Average increased by 15.34 percent between March 3 (the last trading day before the Bank Holiday) and March 15 (the day the New York Stock Exchange resumed), and nearly doubled by the end of June.

This rebound took place months before the FDIC was created by the Banking Act of 1933 (commonly called the Glass-Steagall Act of June 16, 1933) and also long before the creation of the FDIC seemed likely to overcome the opposition of large banks (particularly those in New York), many senators and representatives, and President Roosevelt himself. At a press conference on March 8, 1933, when asked about guaranteeing bank deposits, President Roosevelt stated "Any form of general guarantee means a definite loss to the Government…We do not wish to make the United States Government liable for the mistakes and errors of individual banks and put a premium on unsound banking in the future." Roosevelt did not express willingness to compromise on the issue until the end of May, and even then, he insisted on limiting coverage to deposits. Initial coverage was limited to under $2,500 and then expanded to $5,000, which would only cover households and small businesses but not large firms or wealthy investors. The FDIC's insurance coverage began until January 1, 1934. Given these

facts, the rebound in deposits during the Banking Holiday was unlikely to have been driven by expectations that federal deposit insurance would be instituted.

3. Data

While prior studies have examined the timing of the Banking Holiday, the questions asked in this essay – why did regulators reopen some banks rather than others and how did depositors and economic growth respond to regulators' choices? – require detailed information on all the commercial banks in operation, the dates and condition of each banks' reopening, and information about shocks impacting banks during the contraction of the early 1930s.

We compile this information from a range of sources. The identities and financial data for all U.S. commercial banks at the June call in 1932 and 1933 come from *Rand McNally's Bankers Directory* published in July of each year. This directory was the most widely used compendium of bank balance sheets available to the public during the 1930s.[3] We drop out branches, private banks, government institutions, cash depositories, and mutual savings banks using information in *Rand McNally*. We determine which state banks were Fed members at the end of 1932 and their Federal Reserve District using the *Annual Report of the Federal Reserve Board for 1932*.

While data from *Rand McNally* illuminates the initial wave of reopenings and outcomes in 1933, we extend the balance sheet data forward in two different ways. First, we collect annual national bank balance sheet data for 1928 through 1940 from the OCC to provide a longer-run lens to examine these issues. Second, we obtain county-level deposit aggregates that were

[3] Contemporary writers such as Awalt highlighted that decisions were made with information from previous call reports and examinations. Moreover, in late-1932 and early-1933, many states did not publish individual balance sheets for their banks, leaving the July *Rand McNally* as the only comprehensive source of information for the period and the latest information available to the public prior to the Bank Holiday.

published in county databooks from 1941 through 1964 and collected by Paul Rhode. The data allow us to show how long the deposit differences across locations persisted.

To determine which banks were in operation at the start of the Bank Holiday, we extract all banks that ceased operations or merged with other institutions between June 30, 1932 and March 5, 1933 using the Federal Reserve's Division of Bank Operations St. 6386 forms. The forms list changes in status of each individual commercial bank in the United States between January 1929 and March 1933 (Richardson, 2007). We cross match this information with notes on changes in bank status reported in *Rand McNally* in July 1933.

We determine the fate of each bank between the onset of the Holiday, March 6, and the end of the reopening and reorganization process in June 1933 using internal Federal Reserve documents that list all banks that were fully reopened or reopened with restrictions in each district by week. Comprehensive weekly reports exist up until March 29. After that point, Fed districts reported information less consistently.

Our efforts indicate that 16,790 commercial banks were in business on March 6. At the end of March, 11,793 banks were reported as being fully reopened. Another 1,685 banks were reopened under restrictions. Nearly 85% of the unrestricted reopenings occurred within the first week. Figure 1 shows the distribution of reopenings by county. In many states, reopening rates in the weeks immediately after the Holiday differed substantially across counties, with a high fraction (even 100%) of banks reopening immediately, while in adjacent counties a much lower fraction of banks (often below 60%) reopened.

We supplement information about banks with information on a wide range of supporting variables. Demographic and economic information on the county in which the bank was located comes from the census of 1929 from Haines (2008) and Haines et al. (2018). County-level

electoral data standardized by Clubb et al. (2006) allow us to test whether politics influenced reopening decisions.[4] We also collect information on county-level economic activity over the period, including the value of retail sales from Fishback et al. (2005)[5], the number of individuals filing tax returns from Fishback et al. (2011), the value of wholesale sales from Bureau of the Census (1937a), and the value added by manufacturing from Bureau of the Census (1937b).

4. Regulators' Decisions About Reopening

The initial step of our analysis is to determine why regulators reopened some banks rapidly, other banks with a delay of a few weeks, and another set of banks with a long delay or not at all. This step is necessary to determine what information the public might have gleaned from the rate of reopening. We will show that the reopening date did signal something about banks' health. It was strongly correlated with balance sheet measures about banks' health in the hands of regulators but likely also information unavailable to the public. The signals, however, also contained noise, since regulators reopened some unhealthy banks rapidly while some healthy banks remained closed. The noise probably arose because regulators had limited time and information to determine which banks should reopen, and may have been influenced by political factors and policy objectives other than bank health.

This section analyzes regulators' decision to reopen banks. First, we examine qualitative evidence left by regulators that describes how they made their decisions. Second, we analyze the data to determine the rules that regulators followed when reopening banks.

[4] Studies (e.g., Wright 1974; Wallis 1991) have shown that variation in New Deal spending can be at least partially explained by political factors as well as economic ones.
[5] These data have been made available at: http://www.u.arizona.edu/~fishback/Published_Research_Datasets.html.

4.1 Narrative Evidence of Reopenings

The most detailed description of the reopening process comes from the Francis Awalt (1969) who was acting Comptroller of the Currency between September 1932 and May 1933. He thus oversaw the rise of banking instability and participated first-hand in the Bank Holiday's reopenings. Published after his death, his recollections provide a behind-the-scenes account of the period and shed light on important factors for our empirical analysis.

While there were cursory discussions prior to March about which banks could be reopened after a suspension, work to identify which banks to reopen began when the Emergency Banking Act came into focus. On March 8, Awalt asked the twelve Chief National Bank Examiners to start dividing banks into the three categories, and banks' recent examinations were utilized rather than conducting new examinations before the initial reopenings. The reopening decisions of national banks were recommended by the Chief National Bank Examiners, an assistant in the OCC, and Awalt, but had to be approved by each Federal Reserve District bank. State banks went through a similar process through their state's regulatory officials.

Awalt highlighted that bank stability was one of the most important aspects of the reopening. Initially, Awalt estimated that only about 2,500 national banks had sufficient funds to reopen and meet all demands made on them, but his estimate rose to about 5,300 banks with the additional liquidity provision provided by the Emergency Banking Act. The decision to reopen banks immediately seems to have hinged on their having either sufficient liquidity in general or at least sufficient eligible assets that could be used to borrow from the Fed's Discount Window if necessary. However, Jesse Jones, head of the RFC, highlighted that banks slipped through the cracks: "In those feverish days and nights, it was difficult to decide whether a bank was truly sound…Mistakes were inevitable. A great many unsound banks were allowed to resume

business" (Jones and Angly 1951, p. 21). Indeed, we find examples of banks that closed only a few weeks after being reopened.

Awalt also indicated that regulators were concerned about the geographic coverage of reopened banks. The nation needed banks to allow the payments system to function and prevent business disruptions. "It was necessary that, as far as possible, banks be opened to afford every community with some banking service" (Awalt, p. 363). One of the early steps Awalt took was to physically map out the sound banks that he thought could be reopened without additional liquidity. The initial distribution was apparently too thin and was a primary reason why the Emergency Banking Act's lending provisions were needed. Even after the initial reopenings, the approach was borne out in the Fed Board's 1933 *Annual Report* (p. 25) which highlighted the recapitalization of banks was "utilized chiefly in connection with bank reorganization for the purpose of extending essential banking services to communities that lacked such services."

The record suggests that there might have been different decisions made across different locations and bank types. Awalt noted that the governors of the Federal Reserve Banks had different views on providing liquidity, and the broader evidence barres this out (e.g., Friedman and Schwartz 1963; Richardson and Troost 2009; White 2015). Further, there seems to have been some concern with turning state non-member banks over to state authorities. Not only were most state banks subject to fewer requirements and less frequent examinations, but the historical record also contains many instances where state regulators encouraged state bank growth relative to national banks by lowering requirements (e.g., Board of Governors 1932; White 1983; Komai and Richardson 2014; Mitchener and Jaremski 2015). Even without explicit favoritism, different regulations and opinions across states could have played a role in what types of banks were reopened.

4.2 Empirical Analysis of Reopenings

Regulators received general guidelines about how to choose banks to reopen, but no specific list of instructions. They chose based upon their knowledge of each bank's financial status, standards of practice then in use to identify unhealthy banks, and rules of thumb rapidly devised to help them sort through the thousands of decisions that they needed to make to get the financial system up and running in a few weeks. To uncover common patterns underlying their decisions, we employ an iterative statistical approach.

Initially, we examine individual factors related to the bank itself. These include measures of potential risk based on balance sheet position: the logarithm of total assets, loans to assets, paid-in capital, surplus, and undivided profits to assets (i.e., capital to assets), and cash, exchanges, and due from banks to total deposits (i.e., cash to deposits). These measures are similar to those found to be correlated with the probability of bank failure in academic papers examining eras such as the 1920s agricultural depression (Jaremski and Wheelock 2020), Great Depression (White 1984, Richardson and Troost 2009), 1980s-90s (Wheelock and Wilson 2000), and Great Recession (Cole and White 2012). They are also similar to measures which regulators use to determine the health of bank balance sheets during modern stress tests. We include the logarithm of the bank's age as well as indicators for whether the bank was a national bank or a state Fed member bank (with state non-member banks as the excluded group) and whether it operated any branches outside of the city of its headquarters.

Second, we include basic demographic control variables on the county itself. These variables include: the logarithm of population in 1929, fraction of the county living in an urban location of 2,500 or more people in 1929, the fraction of the adult population that is illiterate in 1929, the fraction of the population that is non-white in 1929, the fraction of owner-operator

farms that had mortgage debt in 1929, indicators for whether the bank was located in a city that was designed a Central Reserve City, Reserve City or had an active clearinghouse in place in 1932, and the logarithm of the number of banks in the county in 1932. The variables account for regional variation that could influence bank operations, but are unlikely to influence regulators directly. We, therefore, include them in the models but do not report their statistics to save space. We also include information on economic and political factors of each county. These include: the logarithm of the number of farms per capita, the logarithm of the number of manufacturing establishments per capita, and the fractions of votes for the Democrat candidates in the House of Representatives elections of 1930 and the Presidential election of 1932.

Third, we add information on the rest of the banking community within the bank's town. As highlighted by Awalt, geographic proximity was important to keep the payments system afloat. A bank's relative position rather than the exact value of its position thus might have been important when there were few options available. In addition to a dummy variable for whether the bank was the only one in the town, we control for the fraction of those other banks that were national banks, the fraction of those other banks that were state member banks, the logarithm of average assets in other banks, the average ratios of loans to assets, capital to assets, and cash to deposits in other banks in the town. For brevity, we suppress several of these variables from our output tables but are available upon request.

Fourth, we control for the state in which the bank was located. The narrative evidence indicated that various regulators had different risk preferences in mind and Mitchener (2005, 2007) demonstrates the importance of different regulatory regimes in each state. Figure 1 has also shown that certain geographic areas had a much lower proportion of reopened banks. We,

therefore, include state-fixed effects to strip out any differences across states and focus only on variation across banks within the same state.[6]

We estimate the probability of fully reopening anytime during March using a logit model:

$$ReopenedMarch_i = 1\{\alpha + BalSheet_i'\beta_{BS} + County_i'\beta_C + EcPol_i'\beta_{EP} + OtherBanks_i'\beta_{OB} + State_i'\beta_S + \epsilon_i > 0\} \quad (1)$$

where $ReopenedMarch_i$ is an indicator for whether bank *i* was fully reopened before March 29, 1933, $BalSheet_i$ is a vector of balance sheet measures of bank *i* in June 1932, $County_i$ is a vector of county demographic and locational controls for bank *i*, $EcPol_i$ is a vector of county economic and political variables for bank *i*, $OtherBanks_i$ is a vector of information on other banks in the same town as bank *i*, $State_i$ is a vector of state fixed effects, and ϵ_i is the error term which is clustered by county.

The marginal effects of the estimated coefficients for equation (1) are presented in Table 2. We see that reopenings in March are positively associated with the size of the bank's assets, the amount of capital to assets, and the amount of cash to deposits, whereas they are negatively associated with loans to assets. Moreover, the estimates suggest that those banks that were subject to higher requirements and supervision (i.e., national banks and state Fed member banks) were more likely to be reopened in March than state non-member banks. The bank-level results remain even when county-level controls and state-fixed effects are added.

In column (2), we add the county, economic, and political controls to the model. Several of the variables played a statistically significant role in reopening decisions. First, banks in

[6] Using state-fixed effects avoids omitted variable bias but prevents us from understanding whether higher/lower reopening rates were driven by unknown state-level factors rather than some personal risk preference of the regulators. In the Appendix, we introduce a number of state-level variables that control for the state's regulatory environment and financial concerns to show the state-fixed effects are not being driven by regulatory differences.

counties with more farms had a higher probability of being reopened. This matches with the period as farmers in most of the county relied on state bank credit to finance the crop and purchase land (see, for instance, Jaremski and Fishback 2018). Second, the data indicate that politics also played a role in reopening decisions. Specifically, banks in areas that seemed to swing against their 1930 pattern and vote for Roosevelt in 1932 had fewer reopenings than other locations. It is possible that this was an attempt to win the future political votes of those places that were not already solidly in Roosevelt's corner. The inclusion of state-fixed effects in column (4) reduces the statistical significance of manufacturing establishments, farm mortgages, and Democrat voting in 1930 but does not eliminate the effect of the other variables.

In column (3), we add the town-level bank comparison values. Here, the only variable that is consistently significant is fraction of banks in the town that are national banks. The positive coefficient suggests that there might be some positive spillover effects of good banking areas, rather than a relative competition amongst banks in a location.

We build on the state-fixed effect model in column (4) of Table 2 with "Best Subsets" regressions (see Lawless and Singhal 1978). The approach estimates all combinations of the variables and selects the *best*-fitting models that contain one variable, two variables, three variables, and so on. The approach identifies factors that had the largest statistical connection to the reopening decision and whether the importance of a variable relies on the inclusion of other variables in the model. To make the results tractable, we include the location controls and state fixed effects in all models and select additional subsets beyond them. The variables contained in each of the selected best subsets are presented in Table 3. Cash to deposits is selected as the highest predictor of reopening immediately followed by bank size, capital to assets, and loans to

assets. The fraction of a city's banks that were national banks as well as the fraction of the county that voted for Roosevelt in 1932 are also chosen relatively high in the model.

Even though the balance sheet risk factors and other variables are relevant predictors of reopening decisions, it is important to point out that even the fully specified model with state-fixed effects can only correctly classify about 77.4% of reopening decisions (in-sample classification). To assess out-of-sample accuracy and to explore important features in model specification, we consider several binary classification machine learning methods, including random forest, support vector machines, k-nearest neighbor, neural networks, and logistic regression. For each approach, we use 20% of our sample for training and 80% for testing, and we include all variables except for the state indicators. Further, we run each model 20 times, randomizing the training sample, to ensure each bank receives a prediction. The most important features from the random forest specification – the most accurate model by a slight margin – largely agree with the best subsets output. The four most important features in the probability of reopening model are: (Cash and Due from Banks)/Deposits, (Capital and Surplus)/Assets, Ln(Total Assets), and Loans/Assets. Of the 29 variables in the model, these four variables carry 32% of the weight in the random forest model, 12.6%, 6.6%, 6.4%, and 6.4%, respectively.

Combining the predictions across the 100 estimations and using a 0.50 predictive probability cutoff for the 0 and 1 predictions, the overall accuracy is about 76% (the unconditional probability of reopening is 69%). Thus, the information from the combined model predictions is useful, but there remains noise. Some misclassification is from unobservables, such as management quality. For instance, all models predict that Harriman National Bank and Trust Company in New York City should have reopened early, as the bank's balance sheet was large and liquid in the 1932 call reports. However, the bank was not reopened early in the

Holiday and in 1934 the bank's president was convicted of bank fraud. Other misclassification is likely due to regulators guessing asset values. Jones stated, "The plunge in values, particularly market ones, made one man's guess as good, or bad, as another's in assessing the probably worth of many a bank's portfolio" (Jones and Angly 1951, p. 21).

Our Appendix on Robustness addresses several threats to inference including regulators' incentives and limited information available to depositors. If regulators' decisions were driven by the desire to return enough banks to operation across the United States to allow the payments system to function in every corner of the United States, then their choices may have differed in locations with fewer banks relative to those with many. If limited information available to depositors on characteristics like management quality determined the fate of banks, this information's exclusion from our regressions might bias our estimates. To address these issues, we re-estimate the model with samples separated by the number of banks in a city and compare coefficients across regressions. If regulators' decisions in towns with fewer banks differed from those in towns with more banks, then these coefficients should be different. Similarly, since depositors' knowledge of the characteristics of each bank in their town diminished as the number of banks in their town grew, if this information differential influenced outcomes under examination, then the coefficients should differ across regressions. We find no significant differences indicating that regulators' goal of payment ubiquity and limits on depositors' knowledge did not distort our results.

The Appendix also includes an additional series of robustness checks on the reopening regressions. We re-estimate the regressions controlling for the changes in county-level economic conditions during the Great Depression using the logarithm change in retail sales per capita 1929 to 1933. We re-estimate the regressions when dropping out any county with a city of 25,000 or

more people as large cities had many more banks competing and more diverse business interests. We also re-estimate the regressions only for those state non-member banks that either reopened fully or had a restricted reopening in March, as well as break up the sample by bank type: national banks, state Fed member banks, and state non-member bank to capture the different regulatory agencies. In all cases, the predictive power of the balance sheet factors is similar to Table 2, which alleviates concerns about the potential confounders.

5. Speed, Stigma, and Depositors' Reactions

Regulators and policymakers feared reopening banks on different dates might signal health for some banks while stigmatizing others. Our regressions demonstrate their fears had a foundation in fact. Regulators rapidly reopened many healthy banks. Banks with substantial liquidity, big capital buffers, and large size reopened on average before weaker banks. Early reopening, therefore, should have served as a positive signal to the public. Later reopening, on the other hand, should have signaled that a bank likely had a weaker balance sheet with less liquidity and lower reserves of owners' equity. This section tests whether the public responded to these signals at the bank and county-level.

It is important to note that the public had relatively little access to information about banks' health. If sought after, depositors could access coarse balance sheet information about banks similar to the data employed in this paper. Often businessmen obtained information from publications like the *Rand McNally Bankers Monthly* or the *Commercial and Financial Chronicle,* while other depositors may have seen balance sheet highlights (e.g., total assets or capital) in newspaper advertisements. No sources including federal and state banking reports, however, published information on income statements, management quality, or loan loss

provisions. Informed depositors thus knew the values of broad categories like loans, deposits, and capital, but not the types of loans made or securities held. Moreover, few depositors had the financial and accounting training to judge bankers themselves. Most of the layman's guides to evaluate banks taught very rough measures of liquidity and leverage rather than deeper insights. Few if any depositors would thus have had more information on banks than what we observe in the data.

It is also important to recognize that few depositors would have expected deposit insurance to be passed. As discussed previously, Roosevelt came out ardently against deposit insurance during the Bank Holiday and threatened to veto any measure. It was not until May that he relented, June that the law was passed, and January 1934 that coverage began. As much of the change in deposits occurred between the July 1932 and July 1933 bank observations in *Rand McNally* (which represented bank information for the preceding June), it is unlikely that the expectations or realization of deposit insurance can explain our findings.

5.1 Bank-Level Differences

We begin by analyzing balance sheets for all banks in the U.S. from *Rand McNally* for 1932 and 1933. Because banks that remained unlicensed in July 1933 did not publish balance sheet information in *Rand McNally*, we have a balanced sample of surviving banks that were fully reopened by July 1933. The linear model estimated by OLS is:

$$\Delta BalSheet_i = a + ReopenedMarch_i'\beta_R + County_i'\beta_C + EcPol_i'\beta_{EP} + State_i'\beta_S + \epsilon_i \quad (2)$$

where $\Delta BalSheet_i$ is the change in each balance sheet measure examined above for bank i between the June call dates in 1932 and 1933, and the rest of the variables retain their previous

definitions. Because the sample is now restricted to surviving banks, the results for $ReopenedMarch_i$ are for banks that reopened earlier, relative to banks that reopened later.

The top panel of Table 4 presents coefficients estimated for equation (2) for each balance-sheet variable. The data show that rapidly reopened banks saw significantly more growth in assets and declines in their capital and cash buffers, relative to banks that fully reopened between April and July 1933. A bank that fully reopened in March rather than April, May, or June had 15% more assets in July 1933, a 2.7 percentage points lower cash to deposits ratio, and a 2.0 percentage points lower capital-to-assets ratio. These results indicate that rapidly reopened banks were able to significantly decrease the cash and capital buffers that had helped them survive the panic and allowed them to be reopened early. To put it another way, banks that reopened quickly received more deposits than banks that reopened slower.[7]

This pattern is a standard symptom of bank stigma, which suggests individuals put fewer deposits in these banks because they believed they were weaker or in some other way worse than banks reopened earlier. It is important to note that the deposit inflow was likely money returning to the system. If a depositor's bank remained closed, they would have been unable to withdraw the deposits in order to place them with another bank. So, the initial balance sheet growth observed is more likely due to "mattress" money returning to banks, as opposed to resources shifting away from a bank that had not reopened yet. Indeed, the Federal Reserve Board (1934) argues that the return of money after the Holiday was from hoarders rather than active circulation, as most of the returned paper was in denominations not used in day-to-day transactions.

[7] As shown in Appendix Section A2, these results are not being driven by recapitalization. If anything, banks reopened later received more capital injections than those that were reopened in March.

To give a closer comparison, we narrow the sample to only state non-member banks. The approach allows us to examine the difference between banks that fully reopened in March, banks that had restricted reopenings in March but fully reopened by July, and those banks that did not reopen in March but reopened fully between April and July. The bottom panel of Table 4 provides this analysis and shows similar results. Those state non-member banks that immediately and unconditionally reopened had larger asset growth and declines in their capital and cash buffers when compared to other state banks. Even those banks that were allowed to reopen under restrictions in March 1933 saw higher asset growth and declines in reserves and capital than those who were not opened in any capacity in March 1933, but instead reopened in April, May or June. The effect of either type of reopening on loans to assets is negative and statistically significant for state non-member banks.

The comparison between restricted and unrestricted reopenings provides additional evidence that our results are not just mechanical. Even within the narrow non-member state bank sample, fully reopened banks received 16.6% more assets compared to restricted reopened banks that only received 5.0% more. Meaning, the inflow of funds to fully reopened banks was not solely due to them being the only banks accepting funds. If that was the case, then there would be no difference between restricted and unrestricted banks. However, the difference indicates that the unrestricted reopening was interpreted as a signal of good health by depositors.

A clear message arises from Table 4. Banks that reopened by March 29 received larger inflows of funds than banks that reopened later, typically in early April. Early reopened banks also put their resources to more productive uses. They held lower reserves of capital and held less of their resources as cash in their vaults or interbank deposits. They expanded investments,

although largely through expanding holdings of bonds and securities, rather than local lending, which seems to decline as a fraction of their balance sheets over time.

An enhanced understanding of the impact of the signals and stigmas sent by rapid reopening can be gained by examining depositors' responses relative to publicly observable pre-panic information about banks' health. As shown in other papers (e.g., Gorton and Pennacchi 1990; Calomiris and Wilson 2004; Calomiris and Jaremski 2019; Anderson, Richardson, and Yang 2023), informed depositors were sensitive to observable bank risk and we would expect them to respond positively to the same factors (i.e., cash/deposits and capital/assets) that caused regulators to quickly reopen banks in the first place. Therefore, we test whether the signal sent by a bank's own observables was more important to depositors than the signal sent by regulators reopening it early. Figure 2 depicts this information using bin scatter plots of log deposit growth from July 1932 to July 1933 relative to each bank characteristics in July 1932, separately for banks that reopened early and banks that reopened later. Deposits overall in July 1933 were lower than they had been a year earlier, before the nationwide panic which brought on the Banking Holiday, although they were substantially higher than in March 1933, at the nadir of the panic and trough of the Depression. Panel A examines the capital/assets ratio (i.e., 1/leverage ratio), and Panel B examines the cash/deposits ratio (i.e., reserves). The data show two results.

First, banks with higher capital and reserves saw lower drops in deposits between 1932 and 1933. However, the slope of the relationship between bank fundamentals and deposit growth differed for banks that were reopened early and those that were reopened later. Specifically, bank fundamentals had less of an effect on deposit growth for early reopened banks than for later. This difference is particularly large for the capital ratio as having high capital ratios had little effect on banks that were reopened early, and a substantial effect on later reopened banks.

Second, for any capital or reserve ratio, banks that reopened early had a significantly lower drop in deposits between 1932 and 1933 than banks that reopened later. The signal of early reopening, in other words, was sufficient to convince depositors to place their funds back in those banks regardless of their initial fundamentals. The difference caused by the early reopening signal was large enough that even the most observably safe banks that reopened later had lower deposit growth than the most observably risky banks that reopened early.

The evidence from the *Rand McNally* data is consistent with the hypothesis that depositors favored banks that reopened early and discriminated against banks that reopened later. However, the limited number of time periods prevents us from testing whether this differential behavior continued further in time. To carry out a longer-run analysis, we examine the data provided by the OCC for all national banks from 1928 to 1940.

We estimate a bank fixed-effect panel data model with an interaction between the reopening variable and the time-fixed effects. The time interactions before the Holiday provide some measure on how banks that would be reopened in March 1933 were trending during the Great Depression downturn, while the interactions after 1932 show how those banks changed after the Bank Holiday. For bank *i* in year *t,* the model is:

$$BalSheet_{it} = \alpha_i + \eta_t + (ReopenedMarch_i * Year_t)'\beta_1 + \sum_{d=2}^{12}(FedDist_{id} * Year_t)'\beta_{2d} + (LnPop_i * Year_t)'\beta_3 + \epsilon_{it} \quad (3)$$

where $BalSheet_{it}$ is the level of one of the balance sheets measures, α_i represents bank-fixed effect parameters, η_t represents the year-fixed effect parameters, $(ReopenedMarch_i * Year_t)$ is an interaction between the March reopening indicator and a vector of year indicators, $(FedDist_{id} * Year_t)$ is an interaction between a Federal Reserve district indicator and a vector of year indicators, and $(LnPop_i * Year_t)$ is an interaction between the 1930 population of the

county in which the bank was located and a vector of year indicators. The interaction between Fed District and time controls for the various monetary policies and discount rate approaches taken by individual Fed districts during the early portion of the Great Depression as well as differential regional growth across the country, while the interaction between population and time helps control for any differential changes across time due to urbanization.

We display the results for the balanced panel of banks present from 1928 through 1940 in Figure 3. Due to the large number of coefficients, we graph the results of equation (3) for each outcome in Table 4, but the Appendix provides the table of coefficients for the balanced sample as well as for subsamples consisting of (a) banks in counties without a city of 25,000 or more and (b) banks in counties that had at least one national bank reopened in March and at least one national bank that was reopened later in the year. These subsamples yield similar results for the closer comparison group of banks.

Figure 3 indicates that immediate and delayed reopened national banks were similar in 1929, especially when focused on the narrower samples of banks. However, during the 1929 to 1933 downturn, those banks that would be reopened in March 1933 performed better relative to banks reopened later. By 1932, national banks that would be reopened in March 1933 were larger, had larger reserve and capital buffers, and had fewer loans to assets than national banks opened later in the year. This offers evidence that regulators were identifying more solvent banks to reopen quickly.

There is an abrupt change in balance sheet behavior between December 1932 and 1933 that matches the cross-sectional results in Table 3 for all banks. Specifically, there is a significant increase in assets at quickly reopened banks and declines in both cash and capital buffers relative to banks reopened later in the year. In fact, the declines in cash and capital are so large that they

reverse their previous trends. The cross-sectional difference in assets in 1932 of 6.6% grows to 39.6% by 1933, and the differences in cash to deposits and capital to assets go from 2.1 percentage points and 1.7 percentage points to -6.6 percentage points and -3.1 percentage points, respectively. The cross-sectional difference in loans to assets, on the other hand, continues to slowly decline over the period. Quickly reopened banks reaped substantial benefits relative to banks that fully reopened later. They not only received the lion's share of returning deposits, but also were able to operate with sufficiently lower capital and reserve ratios. The results for assets and capital continue through 1940, suggesting a more permanent effect of the Bank Holiday on bank balance sheets.[8]

Taken as a whole, the balance sheet regressions indicate that depositors took the speed of reopening as a signal of financial stability, stigmatizing slowly reopened banks. To put it another way, depositors preferred those banks that were reopened quickly even though many other banks opened just a few weeks later. The finding that the effect seems to be persistent long after banks were reopened lends weight to the hypothesis that the Bank Holiday's release of information from the timing of reopenings was responsible for the public's increased confidence rather than Roosevelt's promise to support reopened banks. If the unconditional guarantee of support was responsible for the public response, we would expect a fast convergence of balance sheets.

5.2 County-Level Depositor Differences

Our findings regarding individual banks should be assessed in light of the patterns apparent in Figure 1, which showed that bank reopening rates varied substantially from county to county within the same state. Some of the cross-county variation reflected differences in bank

[8] As shown in the Appendix, we find some convergence of deposit growth between quickly reopened national banks and those reopened later by 1940 for national banks with high capital and reserve ratios in 1932. However, there is still a significant growth difference in 1940 for national banks with lower values of capital and reserves.

health, but much arose from non-economic factors, such as our political variables and apparently idiosyncratic delays in the reopening process. We test this redistribution by examining whether reopening rates led to sizable differences across counties in both short and long time horizons.

We consider the log change in deposits at the county-level from July 1932 (only considering banks that survived to the Bank Holiday) through July 1933, aggregating *Rand McNally* data to the county level. Further, we employ the county-level deposit aggregates from 1941 through 1964 that were published in county databooks and collected by Paul Rhode to extend the analysis forward in time.[9] The county-level regression model is:

$$\Delta Deposits_c = a + \%ReopenedMarch_c'\beta_R + County_c'\beta_C + EcPol_c'\beta_{EP} + State_c'\beta_S + \epsilon_c \quad (4)$$

where $\Delta Deposits_c$ is the log change in deposits for county *c* between 1932 and the specified year, $\%ReopenedMarch_c$ is the fraction of banks in county *c* that were fully reopened in March 1933, and the rest of the variables retain their previous definitions because they were already measured at the county level. We also consider a specification where we add the fraction of banks in county *c* that were reopened under restrictions in March 1933.

Table 5 reports the estimated coefficients of equation (4) starting with the initial change between 1932 and 1933 and moving to longer time horizons out to 1964. The data show that deposit growth is positively associated with the fraction of banks that were reopened early in a county. As would be expected, the effect is largest in June 1933 when many banks were still closed and operating under restrictions, but deposits continued to be larger in counties with a higher proportion of March reopenings through in 1941. Specifically, a 10-percentage point increase in fraction of unrestricted reopenings in March is associated with a predicted increase in

[9] As shown in the Appendix, the bank-level results for the logarithm of deposits are similar if not larger than the results for the logarithm of assets.

deposits of 6.1% in 1933 and 1.8% in 1941. The growth was substantial and sustained. It lasted through the 1930s, the Second World War and Korean War, and until at least 1954. The 1950s were a period of substantial increases in branching and consolidation thus suggesting that the new corporate strategies helped fill some of the gaps left behind by the Bank Holiday.

6. Consequences for Commerce and Industry

The previous section demonstrates that depositors read early reopening as a signal of bank quality, stigmatizing banks that reopened later. This result raises the specter of policymaker's fears, that the signals and stigmas sent by procedures for rebooting the banking system might have reallocated resources through the financial system and impacted the economic recovery. Their fears seem plausible given the wealth of empirical studies on the positive effects of banks on economic growth in both historical (e.g., Jaremski 2014; Rajan and Ramcharan, 2015, 2016; Carlson et al. 2020) and modern periods (e.g., King and Levine 1993; Jayaratne and Strahan 1996; Cetorelli and Gambera 2001; Beck and Levine 2004; Chodorow-Reich 2014; Gilje et al. 2016). Additionally, a wide range of evidence demonstrates that economic activity contracted more in counties that experienced more bank failures and larger deposit drains during the contraction from 1929 to 1933 (e.g., Ziebarth 2013; Mladjan 2019; Cohen et al. 2021). Theoretical models describe that the availability of banks (and confidence in them) allow money to be drawn out of mattresses and loaned out to the betterment of the local community (Diamond and Dybvig 1983). Without banks or trust in the system, deposits would be held by individuals and loans would be limited. In this section, we examine how the differential treatment of banks during the Holiday impacted the economic recovery of communities in which those banks operated.

We examine the Holiday's effect on a range of county-level economic outcomes. The first is retail sales, which is the best available measure of county gross output and account for 70% of gross domestic output. The second is the number of individuals filing tax returns, capturing the number of high-income individuals in an area (as relatively few households had to file). Third, wholesale sales is a measure of county-level production and commerce. Finally, the value added by manufacturing captures the increase in gross domestic product in a county due to activities of manufacturing firms. We employ a cross-sectional linear model where the outcomes are the growth rate for each variable from 1933 through 1935 and the growth rate of retails sales and tax returns for 1933 through 1939 (data from 1939 is extant only for those two variables). In this way, we capture not only different types of growth that the presence or absence of banking might influence, but also look at medium and longer run effects. The models also control for the change in each outcome variable from 1929 to 1933 and the change the number of banks from 1929 to the start of the Bank Holiday to account for the depth of the Depression.

The model is:

$$\Delta Y_c = a + \%ReopenedMarch_c'\beta_R + County_c'\beta_C + EcPol_c'\beta_{EP} + State_c'\beta_S + \Delta Y_{c,29-33}\beta_y + \Delta Banks_{c,29-33}\beta_b + \epsilon_c \quad (5)$$

where ΔY_c is the logarithm change in one of the four outcome variables for county *c*, $\Delta Y_{c,29-33}$ is the logarithm change in the outcome variable between 1929 and 1933 for county *c*, $\Delta Banks_{c,29-33}$ is the logarithm change in the number of banks between 1929 and the start of the Bank Holiday for county *c*, and the rest of the variables retain their previous definitions.

Table 6 displays the estimated coefficients for equation (5). Specifically, we focus on the fraction of banks reopened early (which Table 5 showed was highly correlated with deposit growth) to see whether regulator fears were justified. The fraction of banks fully reopened in

March 1933 does not significantly predict any of our outcomes for economic activity regardless of the different time horizons. If anything, states' decisions to reopen banks under restrictions might have had a negative effect on retail sales but is not significantly correlated with other growth outcomes. Therefore, while the signals and stigmas sent by the reopening process during the Bank Holiday impacted banks and the allocation of resources available to bankers, these signals and stigmas do not seem to have impacted broader economic activity.

Reported in the Appendix, we estimate a variety of robustness checks on these growth regressions. First, we show the results are robust to dropping out counties with large cities of over 25,000 people in 1930. Second, we show that the results are not being driven by counties where all or no banks were fully reopened in March. Third, we show that the results are similar when replacing the fraction of banks that were fully reopened with the fraction of assets of reopened banks, the number of reopened banks, an indicator for whether all of a county's banks were fully reopened in March, and an indicator for whether all of a county's banks were fully reopened by July. The growth results are thus robust to a number of specifications and subsamples.

Our results regarding lasting stigmas, deposit redistribution, and economic growth require explanation. A large literature cited above indicates bank failures tend to mitigate growth. This has even been shown for the contraction from 1929 to 1933 (see, among others, Bernanke 1983, Richardson and Troost 2009). These studies, in general, find that the decline in banking prevented firms from acquiring working capital and financing production and distribution. Counties in which more banks failed saw larger declines in economic output, particularly regions where local banks with specialized knowledge financed local industries.

We find the opposite did not occur during the expansion. Our finding has two likely explanations. First, economic theory indicates that credit frictions should bind more tightly during contractions, when liquidity constraints bind more tightly and threaten financier's solvency, than during expansions, when liquidity is abundant and inexpensive (Rocheteau and Nosal 2017). Second, from 1932 onward, the federal government established an expanding set of programs to ensure that firms and entrepreneurs who needed working capital could access those funds. These programs included (a) creating the RFC, initially to funnel funds to commercial banks, but later to directly finance firms in a wide range of industries; (b) amending the Federal Reserve Act to allow the Reserve Banks to loan funds directly to businesses which could not acquire credit from a commercial bank; and (c) establishing a range of additional agencies to loan funds to farms, utilities, and local governments. Firms seeking funds from the RFC or Fed were initially directed to local banks. If the banks appeared reluctant to extend credit on reasonable terms, the RFC and Fed would often offer to extend a portion of the loan, with the remainder extended by the local bank. This arrangement reduced the default risk borne by the bank and guaranteed that the loan would be accepted at face value as collateral by the RFC or at the Discount Window, eliminating liquidity risk. Such arrangements enabled most firms to acquire credit at a reasonable cost, and the remainder could apply for funds to federal agencies (Jones and Angly 1951).

7. Conclusion

Commercial banks periodically encounter problems which can force some institutions out of business. Policymakers worry failures of even a few influential banks could trigger contagion throughout the financial system and hinder the ability of manufacturers and merchants to finance

ongoing activities. Policymakers then face a dilemma. They can act during a crisis to rescue troubled banks, but these actions reduce bankers' incentives to prepare for the next crisis, making financial panics and future interventions more likely. In modern times, government typically err on the side of stopping the present banking panic with broad bailouts that treat creditors symmetrically to ensure that the government's actions do not cast stigmas on institutions and exacerbate the situation. The federal governments' reaction to the recent failures of Silicon Valley and Signature Banks – in which the government promised payment in full to all depositors in those institutions and also suggested support would be given to all banks. Critics assert that everyone is supported today, but how will that influence their behavior in the future.

Our research suggests that the intertemporal implications of interventions into banking systems could be better balanced. The Banking Holiday of 1933 was the largest intervention into the financial system during the worst contraction amidst the worst banking crisis in the history of the United States. Government leaders worried that treating banks differently based upon their financial status would send signals that advantaged some banks and stigmatized others. Our research indicates that these signals did, in fact, occur, and they influenced depositors' allocations of funds across financial institutions. Depositors had relatively minimal information or financial training in which to judge the quality of their local bank and thus seem to have taken regulators signals to heart. Even before Roosevelt lowered this veto threat over deposit insurance, depositors quickly moved their funds into banks that reopened in March. The impact shifted substantial funds and financial resources across counties and probably had a big impact on banks' bottom lines and bankers' pocketbooks. The impact of this bank stigma on balance sheets lasted for at least a decade. The impact did not, however, carry over to commerce and

industry, probably because the government established an array of lending programs to ensure that all firms had access to credit during the expansion part of the recovery.

The example of the Banking Holiday suggests that policymakers' fears over bank stigma today – that policies which do not treat all banks equally will stigmatize some institutions, slow efforts to restore the financial system to full operation, and hinder the economic recovery – are overwrought. For instance, during the GFC, the Federal Reserve argued both in public and court that protecting the names of banks that borrowed was vital for ending the crisis. However, even substantial bank stigma like that experienced during the Banking Holiday can be overcome by the array of policies established to aid banks and firms during the 1930s, almost all of which remain in place today.

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A. Appendix on Robustness Checks

Throughout the paper, we mention various robustness checks or extensions of our models. To save space, we do not describe those regressions in detail but instead briefly highlight their results. In this Appendix, we describe those alternative specifications in more detail for interested readers. Each section details the alternative specifications for the three different types of models (e.g., reopening, balance sheet growth, and economic growth).

A1. Alternative Specifications for Reopening Regressions

Table 2 shows the estimates coefficients for the reopening regressions across all banks. We undertake a series of robustness checks of the results in Table A1 using subsamples of the data. First, we re-estimate the regressions when controlling for changes in county-level economic conditions during the Great Depression using the logarithm change in retail sales per capita 1929 to 1933. As this growth rate stretches through 1933, it could be endogenous to bank reopenings in March 1933. Therefore, we only include it to show that the results are not sensitive to potential omitted variables correlated with the depth of the economic downturn in the bank's area. The inclusion of the variable, however, has no effect on the other previously important variables.

Second, we re-estimate the regressions when dropping out any county with a city of 25,000 or more people. Large cities had many more banks competing and more diverse business interests. As such, regulators might have examined banks more carefully and taken a different approach than in rural areas. Column (1) provides the results of the full model when these counties are removed, but the results remain relatively similar to those in Table 2.

Third, we re-estimate the regressions only for those state non-member banks that either reopened fully or had a restricted reopening in March. This narrows down the sample to banks that were considered by state regulators to at least be solvent enough to be reopened partially. If bank solvency was of primary concern, then we should still see a difference between these banks. The results in Column (2) show similar effects for the balance sheet variables, but weakened effects of the economic and political characteristics which is to be expected given that the sample's banks were in much more similar locations.

Fourth, we break up the model by bank type: national banks, state Fed member banks, and state non-member banks. Grouping banks together treats the model as if all banks were regulated by the same entities when in reality each had different regulatory agencies. Columns (3), (4), and (5) of Table 4 provide the estimates of equation (1) separately by bank type. There are notable similarities and differences amongst the bank types. The data show that the amount of assets, cash to deposits, and capital to assets matter regardless of the bank type, but the effect of loans to assets and bank age only affect state non-member banks. The amount of farming in the county only influences the reopening of state banks, whereas national politics only play a role in the reopening of national banks. This matches the historical record as national banks had restrictions on real estate lending and thus state banks provided more agricultural credit. Further, national politics were probably only meaningful for national-level decisions that could be influenced by those politics rather than state officials who were more concerned with local politics.

Finally, we re-estimate the model separately by the number of banks in a city. If regulators were focused on making sure there was sufficient banking coverage across the United States to allow the payments system to function, then they could have made differential choices

in locations with very few banks relative to those with many. While the previous models have accounted for relative comparisons with other banks in the same city, they do not allow the effects of the main variables to vary by local competition. Table A2, therefore, presents the results when estimating equation (1) separately for banks that were the only bank in their city, banks that had only one other bank in their city, banks that had two other banks in their city, and banks that three to six other banks in their city. The results for the bank stability variables are relatively similar across the specifications with the exception of loans to assets.

A2. Alternative Specifications for Balance Sheet Regressions

Table 4 and Figure 3 shows the estimates coefficients for the change in balance sheet measures across banks. Here, we examine a number of different robustness checks.

First, we show that the bank-level results are likely being driven by depositors rather than recapitalization. To do this, we re-estimate equations (2) and (3) for the logarithm of deposits and for the logarithm of capital. In the full sample of banks (Table A3) as in the national bank sample (Table A4), we find that quickly reopened banks had substantially more deposits between 1932 and 1933 and if anything, a relative decline in capital. Alternatively, when restricting the sample to non-fed state member banks, we find a positive effect on both deposits and capital. However, even in this smaller sample, the effect on deposits is significantly larger than that for capital. Looking deeper at the data, this positive effect of reopening on capital is driven by non-reopened banks decreased their capital rather than reopened banks increasing their capital. As such, it seems like late reopen banks had to take more losses as a result of stigma compared to quickly reopened ones.

Table A5 shows the coefficients for the national bank panel both for the balance sample of banks shown in Figure 3, but also for two different subsamples. The first subsample drops out counties with large cities to avoid financial centers, whereas the second focuses only on those banks that were counties that had at least one reopened bank in March and one reopened bank between April and December. In both cases, we find that the results are similar to those reported in the paper.

Figure A1 shows the bin scatter plots of deposit growth for only national banks. This is done both for growth between 1932 and 1933 similar to that in Figure 2, but also for growth 1932 through 1940. Similar to the national bank regressions, both sets of scatter plots require a national bank to have been present in from 1928 through 1940. The results for 1932 to 1933 confirm that scatter plots of Figure 2. Despite both groups having a positive correlation between deposit growth and the balance sheet fundamentals, national banks that reopened in March 1933 had substantially higher growth than those who reopened thereafter. Again, the effect of each balance sheet fundamental also has less of an effect on growth for the quickly reopened banks than later ones. The results for 1932 through 1940 show some convergence over time between the two groups. National banks with high capital and reserve requirements in 1932 have similar growth over the rest of the decade. However, national banks with lower capital and reserve requirements in 1932 but were reopened quickly still see higher growth relative to national banks with lower capital and reserve requirements that were reopened later. We take this as suggestive evidence that the stigma effect declined over time for surviving banks but still remained from some institutions in 1940.

A3. Alternative Specifications for County-Level Growth Regressions

Table 6 shows the estimates coefficients for the economic growth regressions across all counties. However, it is possible that the full sample is being distorted by certain types of counties and areas. We, therefore, estimate several additional specifications using subsamples of the data. First, in Table A6, we re-estimate the growth regressions when dropping out those counties with a very large city (i.e., over 25,000 in 1930). These cities were likely to have been financial centers and could have had sufficient banking resources to carry on despite a few closures. The results, however, are very similar across all the outcomes.

Second, in Table A7, we re-estimate the growth regressions when dropping those counties that either had all of their banks fully reopened in March or had none of them reopen. These counties were more likely to be smaller counties with very few banks and could skew the results based on their extreme reopening values. Nevertheless, the results are again consistent with those from Table 6. The fraction of banks in the county that fully reopened in March is not significantly correlated with any of the economic outcomes we study.

Third, in Table A8, we replace our main explanatory variable (i.e., fraction of banks in the county the fully reopened) with several different measures of reopening. Specifically, we utilize the fraction of assets of reopened banks, the number of reopened banks, an indicator for whether all of a county's banks were fully reopened in March, and an indicator for whether all of a county's banks were fully reopened by July. These each capture slightly different sources and sizes of variation, but they all yield the same basic result: no measure of reopening at the county-level is correlated with any growth outcome.

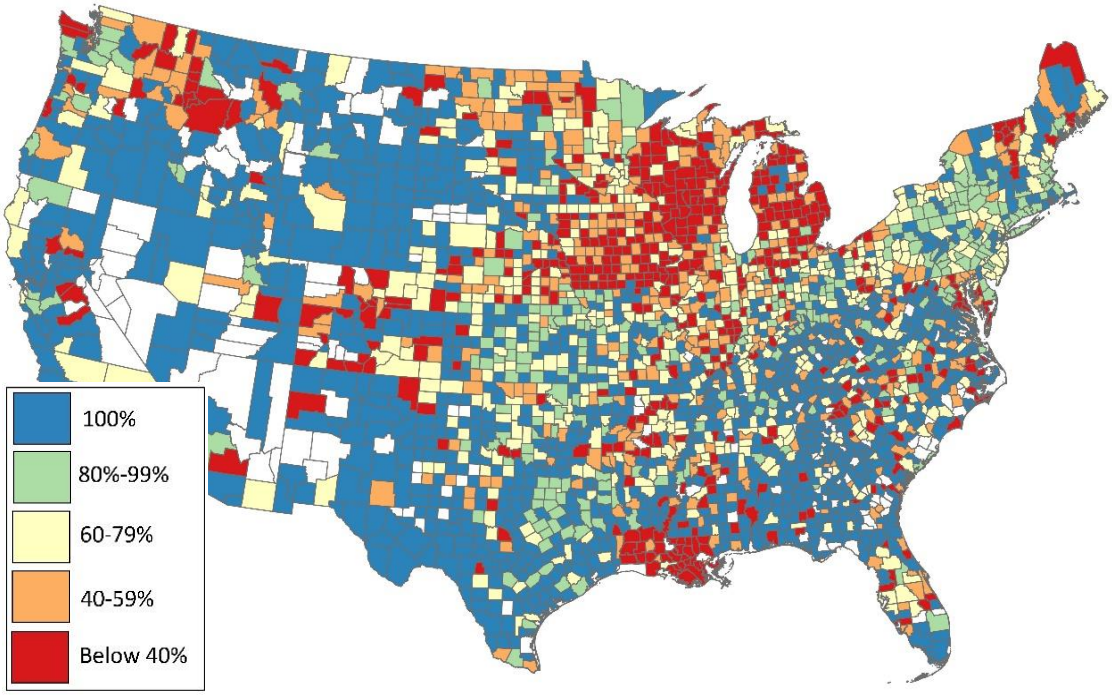
B. Appendix on State Differences in Reopening Rates

The paper showed that regulators worked hard to take bank risk into account when choosing which banks to reopen and depositors responded to that effort. However, these observations do not mean that regulators were perfect. As highlighted by Awalt (1969), Ranjit (2011), and others, regulators were tasked with identifying solvent banks in a very short time-span without the benefit of new examinations. Mistakes were inevitable and regulators' preferences were bound to creep into the decisions. This reality does not change that the Bank Holiday marked the end of bank runs and rebound of deposits, but it does bring up the question of what caused the substantial variation in state-level variation in reopenings.

Seen in Figure 1, while the average March unrestricted reopening rate was 69 percent, Wisconsin, Vermont, and Iowa reopened fewer than 35 percent of their banks and Rhode Island and Wyoming reopened more than 95 percent. The reopening models sought to eliminate these differences by controlling for location and regulatory characteristics that differ across states. Regardless, including state-fixed effects still had some effect on the classification rate and masked several other variables. The problem with state-fixed effects is that they are a black box. We know they have explanatory power but do not know what factors are driving it. Here we introduce a number of state-level variables that control for the state's regulatory environment and financial concerns to separate the regulatory environment from other factors important across states. These include an indicator for whether the state suspended payments before March 4th, the minimum capital of state banks in 1929, an indicator for whether the state required double liability of state bank stockholders in 1929, and the reserve requirement for country state banks on demand deposits in 1929.

In Table A9, we estimate equation (1) using three different sets of variables. The first includes the full set of variables without state-fixed effects and without the state regulatory variables (which was reported in Table 2 column 3). The second includes the full set of variables with state-fixed effects but without the state regulatory variables (which was reported in Table 2 column 4). The third includes the full set of variables with the state regulatory variables but without the state-fixed effects. The table shows that the inclusion of state fixed effects increases the predictive power of the model and reduces the statistical significance of some of the variables, but that the inclusion of the state regulatory variables does not substantially change either the predictive power or effect of other variables in the model. Nevertheless, all four regulatory variables are statistically significant. States that suspended before March 4, had lower minimum capital requirements, single stockholder liability, and higher reserve requirements reopened a larger fraction of banks during March. The difference suggests that the state fixed effects are picking up something in addition to the general regulatory environment.

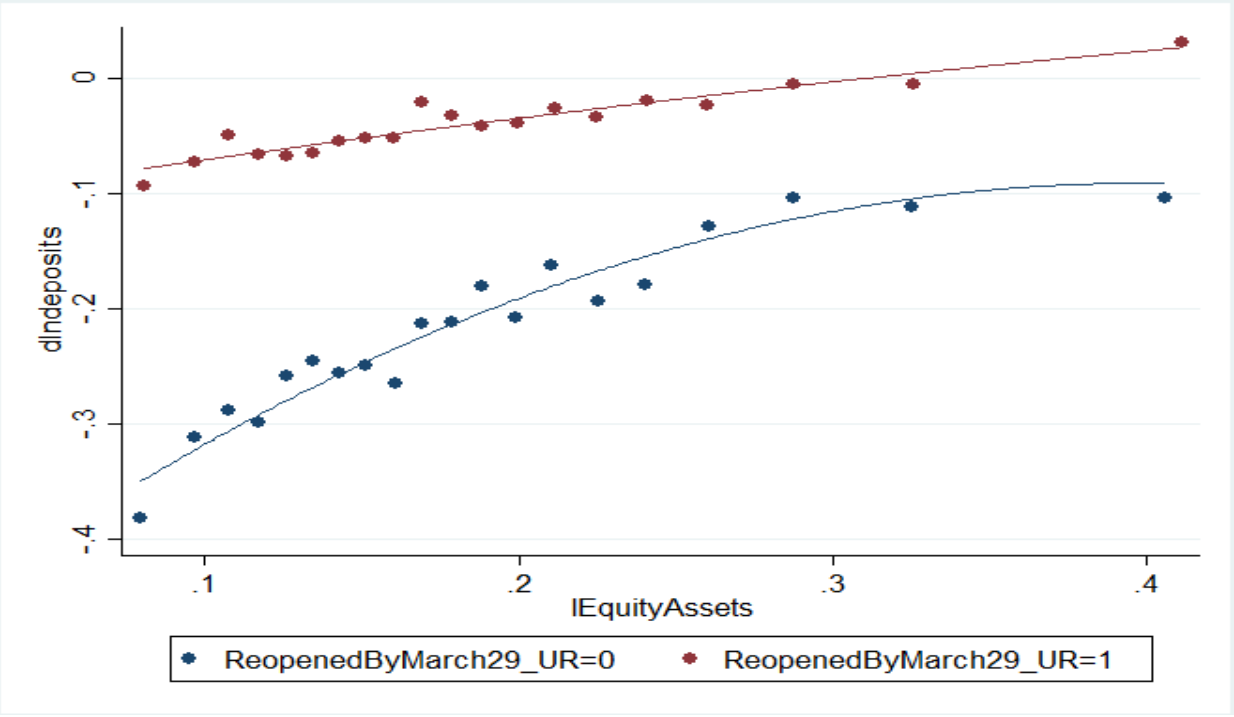
Figure 1: Fraction of Commercial Banks Reopened in March 1933 by County



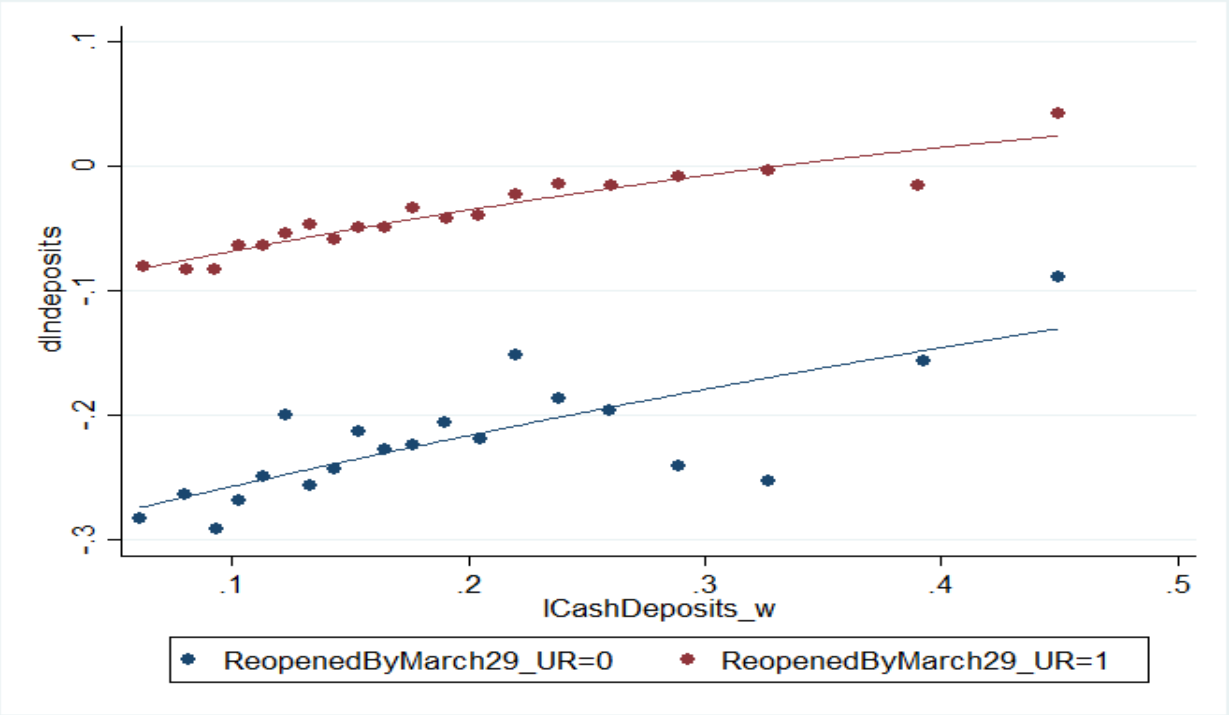
Notes: Maps present the fraction of commercial banks reopened by March 29, 1933 by county. County boundaries were obtained from Minnesota Population Center (2004).

Figure 2: Initial Fundamentals and Subsequent Deposit Growth (1932-1933)

Panel A: Capital Ratio in 1932

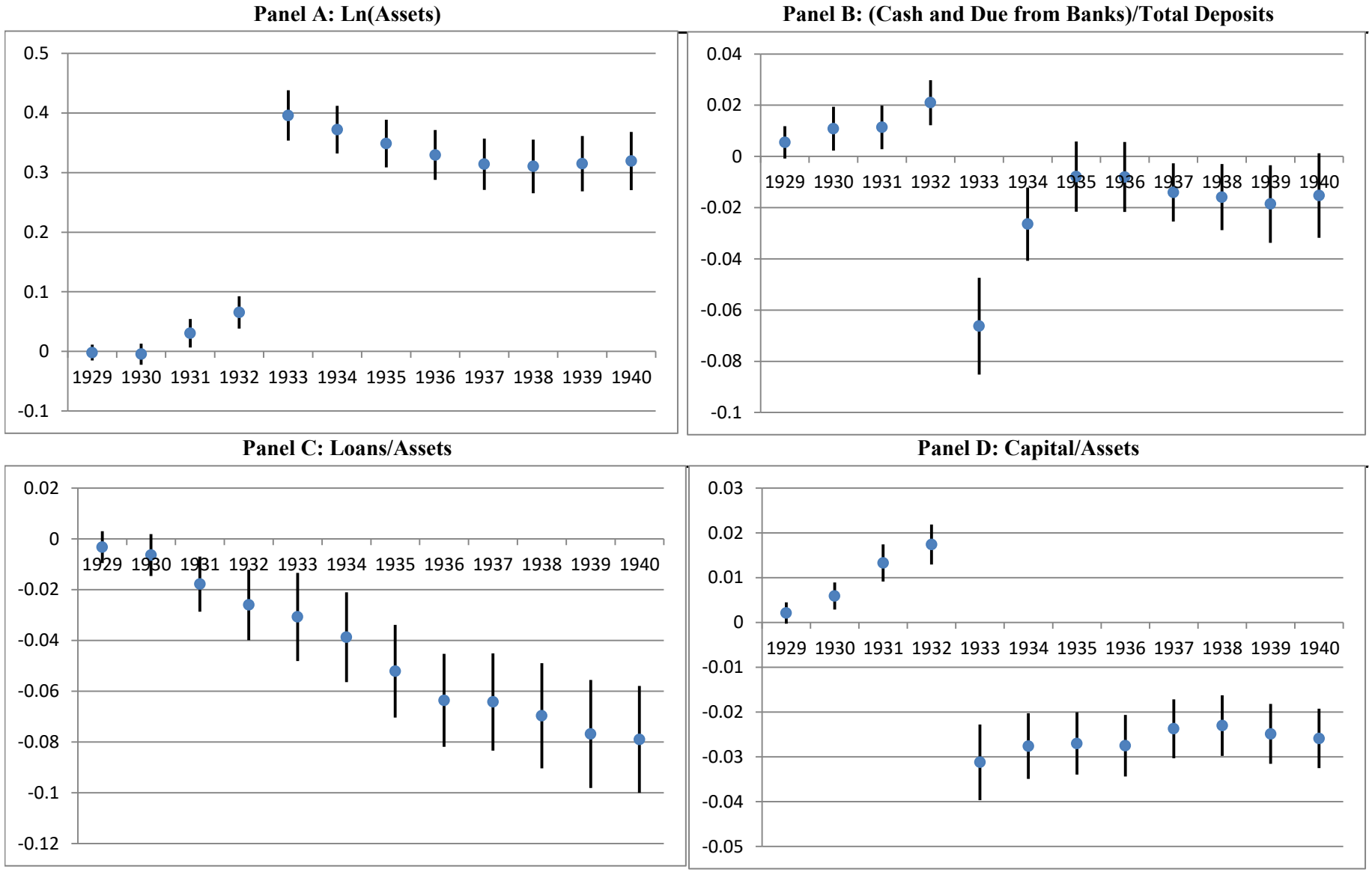


Panel B: Reserves Ratio in 1932



Notes: Figures provide bin scatter plots of deposit growth between July 1932 and July 1933. The sample consists of all commercial banks in July 1932 who were open at the start of the Bank Holiday and fully reopened by July 1933. The panel divides banks based on whether they were fully reopened during March 1933 or whether they reopened by July 1933. The sample drops banks with a value of the ratio in 1932 that was below the 1 percentile or above the 99 percentiles.

Figure 3: Effect of March Reopening on National Bank Balance Sheets (1928-1941)



Notes: Table provides the coefficients on the interaction between year fixed effects and a March reopening indicator in equation (3). The sample consists of national banks that reported data every year from 1928 through 1940. The figures display the coefficient and a 2 standard error band. All regressions contain interactions for Fed District and year as well as population in 1930 and year. The coefficients and standard errors are provided in the Appendix.

Table 1: Commercial Bank Reopenings in March 1933 and June 1933 By Fed District

	By March 29, 1933						
	National Banks		State Member Banks		State Non-Member Banks		
	Total	Licensed	Total	Licensed	Total	Licensed	Open Under Restriction
Boston	338	281	29	23	576	218	333
New York	678	533	143	135	538	493	2
Philadelphia	624	531	64	57	336	254	33
Cleveland	562	414	69	57	784	579	6
Richmond	354	252	33	26	799	587	87
Atlanta	277	235	39	31	840	655	35
Chicago	618	370	156	83	2,337	892	895
St Louis	339	267	64	45	1,536	1,018	165
Minneapolis	496	427	37	31	1,112	627	156
Kansas City	745	667	25	25	1,623	1,173	367
Dallas	514	483	54	45	576	521	42
San Francisco	362	306	74	63	517	362	61
Total	5,907	4,766	787	621	11,574	7,379	2,182
	By June 28, 1933						
	National Banks		State Member Banks		State Non-Member Banks		
	Total	Licensed	Total	Licensed	Total	Licensed	Not Licensed
Boston	338	290	29	25	205	155	50
New York	677	566	151	145	324	314	10
Philadelphia	621	530	64	57	277	242	35
Cleveland	562	424	71	62	742	604	138
Richmond	351	279	42	37	737	588	149
Atlanta	278	240	44	42	783	711	72
Chicago	614	398	161	102	2,188	1,367	821
St Louis	341	280	67	57	1,409	1,172	237
Minneapolis	495	433	36	36	1,015	879	136
Kansas City	743	668	28	28	1,532	1,247	285
Dallas	512	487	51	49	546	521	25
San Francisco	354	304	76	63	426	368	58
Total	5,886	4,899	820	703	10,184	8,168	2,016

Notes: Table presents the number of commercial banks in total and reopened by Fed district and bank-type. See Data section for sources.

Table 2: Determinants of Unrestricted Reopening in March 1933

	Reopened By March 29, 1933			
	(1)	**(2)**	**(3)**	**(4)**
Ln(Total Assets)	0.069***	0.078***	0.075***	0.075***
	[0.005]	[0.005]	[0.006]	[0.006]
Loans/Assets	-0.035	-0.077***	-0.078***	-0.107***
	[0.026]	[0.027]	[0.026]	[0.025]
(Cash and Due from Banks)/Deposits	1.126***	1.043***	1.041***	1.020***
	[0.052]	[0.053]	[0.052]	[0.050]
(Capital and Surplus)/Assets	0.689***	0.626***	0.559***	0.431***
	[0.066]	[0.066]	[0.066]	[0.063]
National Bank Indicator	0.099***	0.089***	0.094***	0.047***
	[0.010]	[0.010]	[0.010]	[0.009]
State Bank Fed Member Indicator	0.038*	0.040*	0.040**	0.040**
	[0.021]	[0.021]	[0.020]	[0.019]
Operates State-Wide Branches	-0.040	-0.053*	-0.051*	-0.028
	[0.029]	[0.029]	[0.029]	[0.027]
# of Farms Per Person		0.791***	0.844***	0.376*
		[0.226]	[0.225]	[0.195]
# of Mfg. Establishments Per Person		-0.327***	-0.322***	-0.083
		[0.069]	[0.069]	[0.063]
Fraction Voted for FDR in 1932		-0.246***	-0.241***	-0.172***
		[0.054]	[0.054]	[0.059]
Fraction Voted for Dem. Candidate in 1930		0.105***	0.098***	0.043
		[0.028]	[0.027]	[0.034]
No Other Banks in Town Indicator			0.063	-0.024
			[0.112]	[0.101]
Fraction of Other Banks In Town That Are National Banks			0.188***	0.095***
			[0.029]	[0.027]
Fraction of Other Banks in Town That Are State Fed Member Banks			-0.024	-0.029
			[0.047]	[0.044]
State Fixed-Effects?	No	No	No	Yes
County-Level Controls?	No	Yes	Yes	Yes
Additional Town Bank Controls?	No	No	Yes	Yes
Observations	16803	16555	16555	16555
R-squared	0.096	0.114	0.118	0.207
Classification Rate	72.49%	73.97%	74.12%	77.40%

Notes: Table provides the marginal effects of equation (1) estimated with a logit model. The dependent variable is an indicator for whether the bank was reopened without restrictions by March 29, 1933. The sample consists of all commercial banks in July 1932 who were open at the start of the Bank Holiday. County-Level Controls include the logarithm of population in 1929, fraction of the county living in an urban location of 2,500 or more people in 1929, the fraction of the adult population that is illiterate in 1929, the fraction of the population that is non-white in 1929, indicators for whether the bank was located in a city that was designed a Central Reserve City, Reserve City or had an active clearinghouse in place in 1932 and the logarithm of the number of banks in the county in 1932. Robust standard errors are provided in parentheses below the coefficients. * denotes significance at 10%; ** at 5% level and *** at 1% levels.

Table 3: Best Subsets Regressions

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1 (Cash and Due from Banks)/Deposits	x	x	x	x	x	x	x	x	x	x	x	x	x	x
2 Ln(Total Assets)		x	x	x	x	x	x	x	x	x	x	x	x	x
3 (Capital and Surplus)/Assets			x	x	x	x	x	x	x	x	x	x	x	x
4 National Bank Indicator				x	x	x	x	x	x	x	x	x	x	x
5 Loans/Assets					x	x	x	x	x	x	x	x	x	x
6 Fraction of Other Banks In Town That Are National Banks						x	x	x	x	x	x	x	x	x
7 Fraction Voted for FDR in 1932							x	x	x	x	x	x	x	x
8 # of Farms Per Person								x	x	x	x	x	x	x
9 State Bank Fed Member Indicator									x	x	x	x	x	x
10 Fraction Voted for Dem. Candidate in 1930										x	x	x	x	x
11 # of Mfg. Establishments Per Person											x	x	x	x
12 Operates State-Wide Branches												x	x	x
13 Fraction of Other Banks in Town That Are State Fed Member Banks													x	x
14 No Other Banks in Town Indicator														x

Notes: Table presents the results of Best Subsets Regressions of column (4) of Table 2. The columns indicate whether the variable described in the row heading was included in the best subset with that number of variables. The county-level control variables and state-fixed effects are included in all models and are not counted towards the number of variables in the subset.

Table 4: Balance Sheet Changes of Reopened Banks 1932 to 1933

	Panel A: All Banks Open By July 1933			
	ΔLn(Assets)	**ΔLoans/Assets**	**Δ(Cash and Due from Banks)/Deposits**	**Δ(Capital and Surplus)/Assets**
	(1)	(2)	(3)	(4)
Unrestricted reopen by March 29	0.156***	-0.002	-0.027***	-0.020***
	[0.007]	[0.003]	[0.003]	[0.001]
Economic and Political Variables?	Yes	Yes	Yes	Yes
County-Level Controls?	Yes	Yes	Yes	Yes
State Fixed-Effects?	Yes	Yes	Yes	Yes
Observations	13268	13268	13268	13268
R-squared	0.160	0.064	0.103	0.067
	Panel B: Only State Non-Member Banks Open By July 1933			
	ΔLn(Assets)	**ΔLoans/Assets**	**Δ(Cash and Due from Banks)/Deposits**	**Δ(Capital and Surplus)/Assets**
	(5)	(6)	(7)	(8)
Unrestricted reopen by March 29	0.166***	-0.009**	-0.021***	-0.023***
	[0.011]	[0.004]	[0.004]	[0.002]
Restricted reopen by March 29	0.050***	-0.011**	-0.010*	-0.012***
	[0.014]	[0.005]	[0.006]	[0.003]
Economic and Political Variables?	Yes	Yes	Yes	Yes
County-Level Controls?	Yes	Yes	Yes	Yes
State Fixed-Effects?	Yes	Yes	Yes	Yes
Observations	8114	8114	8114	8114
R-squared	0.179	0.071	0.110	0.073

Notes: Table provides the coefficients of equation (2) estimated by ordinary least squares. The dependent variables provided in the column headings are measured as the change between July 1932 and July 1933. The sample consists of all commercial banks in July 1932 who were open at the start of the Bank Holiday, fully reopened by July 1933, and that met the criteria in the column heading. County-Level Controls include the logarithm of population in 1929, fraction of the county living in an urban location of 2,500 or more people in 1929, the fraction of the adult population that is illiterate in 1929, the fraction of the population that is non-white in 1929, indicators for whether the bank was located in a city that was designed a Central Reserve City, Reserve City or had an active clearinghouse in place in 1932 and the logarithm of the number of banks in the county in 1932. Economic and Political Variables include the logarithm of number of farms per capita, the logarithm of number of manufacturing establishments per capita, the fraction of owner-operator farms that had mortgage debt, the fractions of votes for the Democrat candidates in the House of Representatives elections of 1930 and the Presidential election of 1932. Robust standard errors are provided in parentheses below the coefficients. * denotes significance at 10%; ** at 5% level and *** at 1% levels.

Table 5: Implications of March Reopenings on County-Level Deposit Growth

	ΔLn(Total Deposits) Pre-Banking Holiday through ….						
	1933	**1941**	**1944**	**1950**	**1954**	**1960**	**1964**
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
%Unrestricted reopen by March 29	0.609***	0.178***	0.131***	0.086**	0.060*	0.016	0.009
	[0.052]	[0.035]	[0.031]	[0.034]	[0.034]	[0.036]	[0.038]
County-Level Controls?	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Economic and Political Variables?	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Other Bank Controls?	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State Fixed Effects?	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	2669	2807	2807	2819	2817	2818	2821
R-squared	0.328	0.653	0.761	0.727	0.709	0.713	0.701
	ΔLn(Total Deposits) Pre-Banking Holiday through ….						
	1933	**1941**	**1944**	**1950**	**1954**	**1960**	**1964**
	(8)	(9)	(10)	(11)	(12)	(13)	(14)
%Unrestricted reopen by March 29	0.735***	0.187***	0.155***	0.115***	0.094**	0.061	0.062
	[0.063]	[0.043]	[0.036]	[0.039]	[0.039]	[0.040]	[0.043]
%Restricted reopen by March 29	0.435***	0.033	0.086	0.103*	0.122*	0.159**	0.188**
	[0.081]	[0.073]	[0.061]	[0.062]	[0.064]	[0.069]	[0.075]
County-Level Controls?	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Economic and Political Variables?	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Other Bank Controls?	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State Fixed Effects?	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	2669	2807	2807	2819	2817	2818	2821
R-squared	0.338	0.653	0.762	0.727	0.710	0.714	0.702

Notes: Table provides the coefficients of equation (4) estimated by ordinary least squares. The dependent variables is the change in the logarithm of total deposits in the county between the start of the Bank Holiday through the year specified. County-Level Controls include the logarithm of population in 1929, fraction of the county living in an urban location of 2,500 or more people in 1929, the fraction of the adult population that is illiterate in 1929, the fraction of the population that is non-white in 1929, indicators for whether the bank was located in a city that was designed a Central Reserve City, Reserve City or had an active clearinghouse in place in 1932 and the logarithm of the number of banks in the county in 1932. Economic and Political Variables include the logarithm of number of farms per capita, the logarithm of number of manufacturing establishments per capita, the fraction of owner-operator farms that had mortgage debt, the fractions of votes for the Democrat candidates in the House of Representatives elections of 1930 and the Presidential election of 1932. Robust standard errors are provided in parentheses below the coefficients. * denotes significance at 10%; ** at 5% level and *** at 1% levels.

Table 6: Implications of March Reopenings on Measures of Economic Growth

	ΔLn(Retail Sales)		ΔLn(Wholesale Sales)	ΔLn(# of Tax Returns Filed)		ΔLn(Value Added)
	1933-1935	1933-1939	1933-1935	1933-1935	1933-1939	1933-1935
	(1)	(2)	(3)	(4)	(5)	(6)
%Unrestricted reopen by March 29	-0.003	0.003	0.050	0.009	0.019	0.027
	[0.012]	[0.013]	[0.051]	[0.019]	[0.023]	[0.074]
County-Level Controls?	Yes	Yes	Yes	Yes	Yes	Yes
Other Bank Controls?	Yes	Yes	Yes	Yes	Yes	Yes
State Fixed Effects?	Yes	Yes	Yes	Yes	Yes	Yes
Lagged Growth Variable?	Yes	Yes	Yes	Yes	Yes	Yes
Change in Banks 1929-1933?	Yes	Yes	Yes	Yes	Yes	Yes
Observations	2838	2838	2816	2794	2794	1973
R-squared	0.288	0.372	0.242	0.212	0.285	0.220

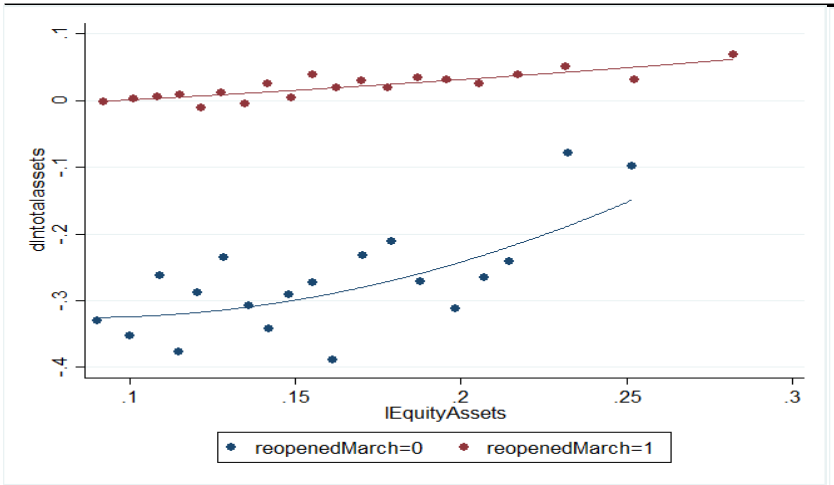
	ΔLn(Retail Sales)		ΔLn(Wholesale Sales)	ΔLn(# of Tax Returns Filed)		ΔLn(Value Added)
	1933-1935	1933-1939	1933-1935	1933-1935	1933-1939	1933-1935
	(7)	(8)	(9)	(10)	(11)	(12)
%Unrestricted reopen by March 29	-0.020	-0.013	0.057	0.005	0.009	0.021
	[0.013]	[0.014]	[0.061]	[0.022]	[0.026]	[0.087]
%Restricted reopen by March 29	-0.059**	-0.057**	0.028	-0.014	-0.039	-0.027
	[0.024]	[0.024]	[0.089]	[0.034]	[0.045]	[0.103]
County-Level Controls?	Yes	Yes	Yes	Yes	Yes	Yes
Other Bank Controls?	Yes	Yes	Yes	Yes	Yes	Yes
State Fixed Effects?	Yes	Yes	Yes	Yes	Yes	Yes
Lagged Growth Variable?	Yes	Yes	Yes	Yes	Yes	Yes
Change in Banks 1929-1933?	Yes	Yes	Yes	Yes	Yes	Yes
Observations	2838	2838	2816	2794	2794	1973
R-squared	0.290	0.373	0.242	0.212	0.285	0.220

Notes: Table provides the coefficients of equation (5) estimated by ordinary least squares. The dependent variables is the change in the logarithm of specified variable across the period specified. County-Level Controls include the logarithm of population in 1929, fraction of the county living in an urban location of 2,500 or more people in 1929, the fraction of the adult population that is illiterate in 1929, the fraction of the population that is non-white in 1929, indicators for whether the bank was located in a city that was designed a Central Reserve City, Reserve City or had an active clearinghouse in place in 1932 and the logarithm of the number of banks in the county in 1932. Economic and Political Variables include the logarithm of number of farms per capita, the logarithm of number of manufacturing establishments per capita, the fraction of owner-operator farms that had mortgage debt, the fractions of votes for the Democrat candidates in the House of Representatives elections of 1930 and the Presidential election of 1932. The models also control for the change in each outcome variable 1929 to 1933 and the change the number of banks 1929 to the start of the Bank Holiday. Robust standard errors are provided in parentheses below the coefficients. * denotes significance at 10%; ** at 5% level and *** at 1% levels.

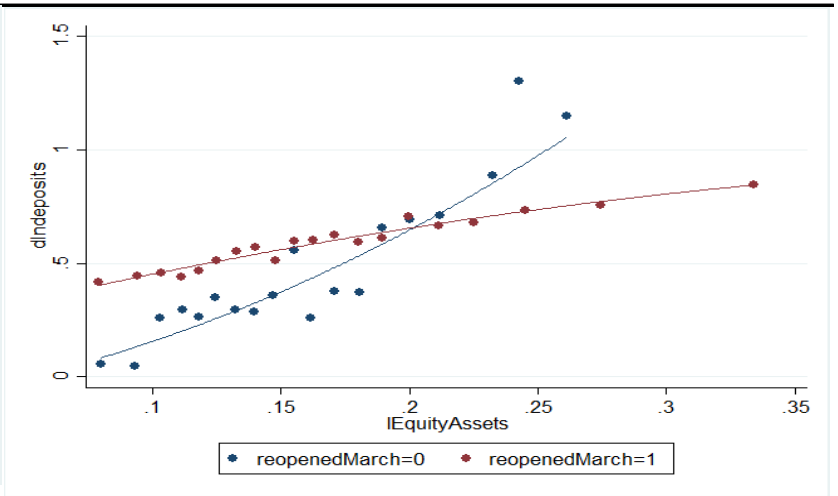
Figure A1: Initial Fundamentals and Subsequent Deposit Growth (1932-1940) - National Banks

Panel A: Capital Ratio

Growth 1932-1933

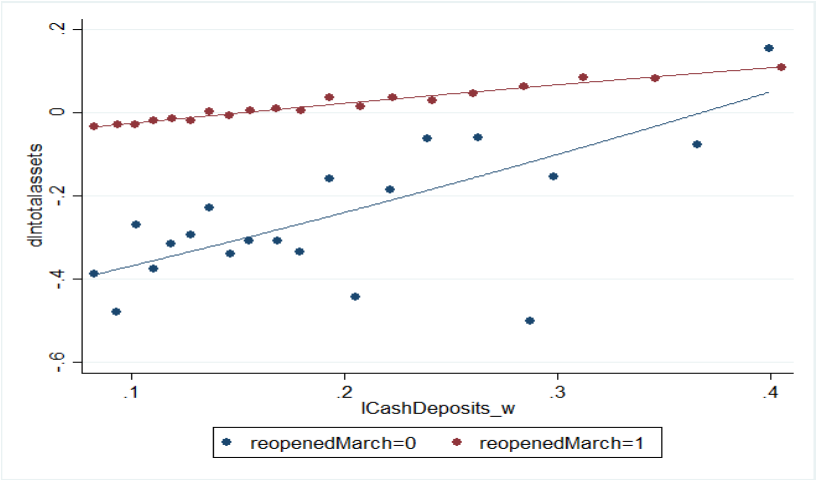


Growth 1932-1940

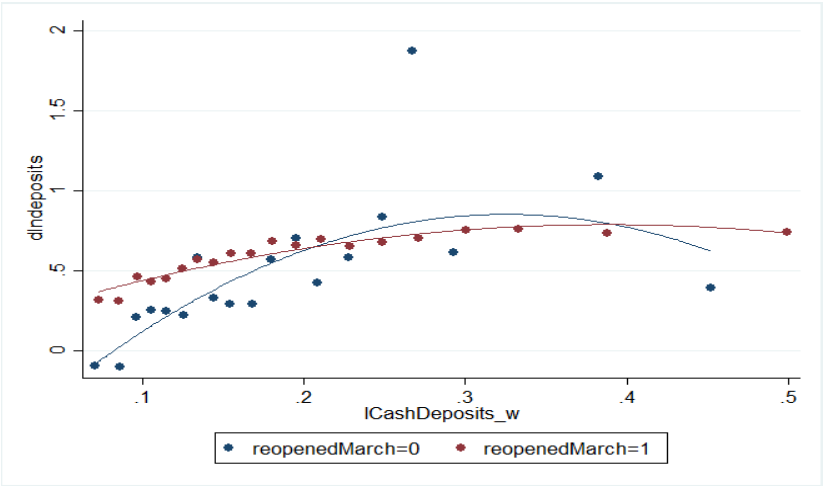


Panel B: Reserves Ratio

Growth 1932-1933



Growth 1932-1940



Notes: Figures provide bin scatter plots of deposit growth. The sample consists of all national banks in 1932 who were open at the start of the Bank Holiday and fully reopened. The panel divides banks based on whether they were fully open 1928 through 1940. The sample drops banks with a value of the ratio in 1932 that was below the 1 percentile or above the 99 percentiles.

Table A1: Robustness Checks of Determinants of Unrestricted Reopening in March 1933

	Reopened By March 29, 1933					
	Controlling for Change in Retail Sales 1929-1933	**Dropping Counties with 25,000+**	**Fully or Restricted Reopened State Banks in March**	**Only National Banks**	**Only State Fed Members**	**Only State Non-Fed Members**
	(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**
Ln(Total Assets)	0.075***	0.090***	0.047***	0.078***	0.061***	0.073***
	[0.006]	[0.007]	[0.008]	[0.009]	[0.019]	[0.007]
Loans/Assets	-0.105***	-0.117***	-0.117***	-0.051	-0.052	-0.143***
	[0.025]	[0.029]	[0.033]	[0.042]	[0.115]	[0.031]
(Cash and Due from Banks)/Deposits	1.020***	1.030***	0.718***	1.243***	1.045***	0.948***
	[0.050]	[0.054]	[0.061]	[0.100]	[0.277]	[0.059]
(Capital and Surplus)/Assets	0.432***	0.457***	0.095	1.232***	0.600**	0.212***
	[0.063]	[0.071]	[0.071]	[0.136]	[0.298]	[0.072]
National Bank Indicator	0.047***	0.050***	-	-	-	-
	[0.009]	[0.011]				
State Bank Fed Member Indicator	0.040**	0.067***	0.133***	-	-	-
	[0.019]	[0.024]	[0.042]			
Operates State-Wide Branches	-0.030	-0.031	-0.053	-0.102	-0.141*	-0.043
	[0.027]	[0.030]	[0.034]	[0.083]	[0.078]	[0.029]
# of Farms Per Person	0.489**	0.558***	-0.009	-0.000	2.184***	0.539**
	[0.201]	[0.208]	[0.252]	[0.318]	[0.801]	[0.232]
# of Mfg. Establishments Per Person	-0.098	-0.108	-0.081	-0.087	-0.184	-0.103
	[0.063]	[0.078]	[0.081]	[0.095]	[0.254]	[0.082]
Fraction Voted for FDR in 1932	-0.155***	-0.156**	-0.028	-0.273***	-0.355	-0.068
	[0.059]	[0.070]	[0.086]	[0.083]	[0.226]	[0.074]
Fraction Voted for Dem. Candidate in 1930	0.039	0.045	-0.022	0.044	-0.145	0.034
	[0.034]	[0.037]	[0.039]	[0.047]	[0.095]	[0.043]
No Other Banks in Town Indicator	-0.021	0.047	0.383**	0.069	-0.007	-0.030
	[0.100]	[0.134]	[0.164]	[0.160]	[0.440]	[0.141]
Fraction of Other Banks In Town That Are	0.094***	0.057*	0.119***	0.049	0.209**	0.115***
National Banks	[0.027]	[0.031]	[0.041]	[0.038]	[0.102]	[0.037]
Fraction of Other Banks in Town That Are	-0.031	0.018	-0.059	-0.019	0.098	0.007
State Fed Member Banks	[0.044]	[0.062]	[0.136]	[0.055]	[0.120]	[0.100]
State Fixed-Effects?	Yes	Yes	Yes	Yes	Yes	Yes
County-Level Controls?	Yes	Yes	Yes	Yes	Yes	Yes
Observations	16555	12538	6472	5630	713	10091
R-squared	0.2082	0.223	0.358	0.185	0.288	0.228
Classification Rate	77.42%	77.37%	83.61%	81.33%	82.05%	75.70%

Notes: Table provides the marginal effects of equation (1) estimated with a logit model. The dependent variable is an indicator for whether the bank was reopened without restrictions by March 29, 1933. The sample consists of all commercial banks in July 1932 who were open at the start of the Bank Holiday that meet the criteria in the column heading. County-Level Controls include the logarithm of population in 1929, fraction of the county living in an urban location of 2,500 or more people in 1929, the fraction of the adult population that is illiterate in 1929, the fraction of the population that is non-white in 1929, indicators for whether the bank was located in a city that was designed a Central Reserve City, Reserve City or had an active clearinghouse in place in 1932 and the logarithm of the number of banks in the county in 1932. Robust standard errors are provided in parentheses below the coefficients. * denotes significance at 10%; ** at 5% level and *** at 1% levels.

Table A2: Determinants of Unrestricted Reopening in March 1933 By Number of Banks in Town

	Reopened By March 29, 1933			
	1 Bank in Town	**2 Banks in Town**	**3 Banks in Town**	**4-7 Banks in Town**
	(1)	(2)	(3)	(4)
Ln(Total Assets)	0.099***	0.077***	0.095***	0.032**
	[0.008]	[0.012]	[0.018]	[0.016]
Loans/Assets	-0.126***	-0.057	-0.123	-0.058
	[0.033]	[0.047]	[0.081]	[0.093]
(Cash and Due from Banks)/Deposits	1.021***	1.107***	1.062***	1.097***
	[0.065]	[0.103]	[0.175]	[0.200]
(Capital and Surplus)/Assets	0.553***	0.353**	0.466**	0.246
	[0.079]	[0.139]	[0.201]	[0.230]
National Bank Indicator	0.034***	0.056***	0.037	0.030
	[0.013]	[0.015]	[0.029]	[0.034]
State Bank Fed Member Indicator	0.042	0.050	0.100**	-0.044
	[0.033]	[0.031]	[0.050]	[0.046]
Operates State-Wide Branches	0.016	-0.043	-0.110	-0.009
	[0.043]	[0.047]	[0.089]	[0.060]
# of Farms Per Person	0.315	0.846**	-0.183	0.463
	[0.233]	[0.363]	[0.750]	[0.973]
# of Mfg. Establishments Per Person	-0.007	-0.222*	-0.137	0.224
	[0.089]	[0.133]	[0.213]	[0.249]
Fraction Voted for FDR in 1932	-0.172**	-0.169	-0.065	-0.392*
	[0.076]	[0.105]	[0.167]	[0.214]
Fraction Voted for Dem. Candidate in 1930	0.019	0.065	0.045	0.315***
	[0.042]	[0.063]	[0.088]	[0.121]
No Other Banks in Town Indicator	-	-	-	-
Fraction of Other Banks In Town That Are	-	0.123***	0.031	0.082
National Banks		[0.031]	[0.063]	[0.095]
Fraction of Other Banks in Town That Are	-	0.001	0.222**	-0.294***
State Fed Member Banks		[0.059]	[0.108]	[0.105]
State Fixed-Effects?	Yes	Yes	Yes	Yes
County-Level Controls?	Yes	Yes	Yes	Yes
Observations	8739	4362	1407	1124
R-squared	0.229	0.206	0.234	0.210

Notes: Table provides the marginal effects of equation (1) estimated with a logit model. The dependent variable is an indicator for whether the bank was reopened without restrictions by March 29, 1933. The sample consists of all commercial banks in July 1932 who were open at the start of the Bank Holiday that meet the criteria in the column heading. County-Level Controls include the logarithm of population in 1929, fraction of the county living in an urban location of 2,500 or more people in 1929, the fraction of the adult population that is illiterate in 1929, the fraction of the population that is non-white in 1929, indicators for whether the bank was located in a city that was designed a Central Reserve City, Reserve City or had an active clearinghouse in place in 1932 and the logarithm of the number of banks in the county in 1932. Robust standard errors are provided in parentheses below the coefficients. * denotes significance at 10%; ** at 5% level and *** at 1% levels.

Table A3: Balance Sheet Changes of Reopened Banks 1932 to 1933 - Deposits and Capital

	Panel A: All Banks Open By July 1933	
	ΔLn(Deposits)	**ΔLn(Capital)**
	(1)	(1)
Unrestricted reopen by March 29	0.192***	-0.009
	[0.009]	[0.006]
Economic and Political Variables?	Yes	Yes
County-Level Controls?	Yes	Yes
State Fixed-Effects?	Yes	Yes
Observations	13268	13268
R-squared	0.146	0.035
	Panel B: Only State Non-Member Banks Open By July 1933	
	ΔLn(Deposits)	**ΔLn(Capital)**
	(5)	(5)
Unrestricted reopen by March 29	0.209***	0.020***
	[0.014]	[0.006]
Restricted reopen by March 29	0.068***	0.014*
	[0.018]	[0.008]
Economic and Political Variables?	Yes	Yes
County-Level Controls?	Yes	Yes
State Fixed-Effects?	Yes	Yes
Observations	8114	8114
R-squared	0.145	0.020

Notes: Table provides the coefficients of equation (2) estimated by ordinary least squares. The dependent variables provided in the column headings are measured as the change between July 1932 and July 1933. The sample consists of all commercial banks in July 1932 who were open at the start of the Bank Holiday, fully reopened by July 1933, and that met the criteria in the column heading. County-Level Controls include the logarithm of population in 1929, fraction of the county living in an urban location of 2,500 or more people in 1929, the fraction of the adult population that is illiterate in 1929, the fraction of the population that is non-white in 1929, indicators for whether the bank was located in a city that was designed a Central Reserve City, Reserve City or had an active clearinghouse in place in 1932 and the logarithm of the number of banks in the county in 1932. Economic and Political Variables include the logarithm of number of farms per capita, the logarithm of number of manufacturing establishments per capita, the fraction of owner-operator farms that had mortgage debt, the fractions of votes for the Democrat candidates in the House of Representatives elections of 1930 and the Presidential election of 1932. Robust standard errors are provided in parentheses below the coefficients. * denotes significance at 10%; ** at 5% level and *** at 1% levels.

Table A4: Balance Sheet Changes of Reopened National Banks (1928-1940) - Deposits and Capital

	Ln(Deposits)			Ln(Capital)		
	Banks Surviving 1928-1940	**Dropping Counties With City of 25,000+**	**Dropping Counties Without Non-March Reopened Banks**	**Banks Surviving 1928-1940**	**Dropping Counties With City of 25,000+**	**Dropping Counties Without Non-March Reopened Banks**
	(1)	(2)	(3)	(4)	(5)	(6)
Reopened March*yr==1929	-0.008	-0.010	-0.008	0.008	-0.000	0.006
	[0.008]	[0.011]	[0.011]	[0.008]	[0.009]	[0.011]
Reopened March*yr==1930	-0.013	-0.020	-0.008	0.011	-0.002	0.009
	[0.011]	[0.014]	[0.015]	[0.009]	[0.010]	[0.013]
Reopened March*yr==1931	0.016	0.009	0.024	0.020**	0.004	0.021
	[0.015]	[0.018]	[0.019]	[0.009]	[0.011]	[0.013]
Reopened March*yr==1932	0.068***	0.054***	0.077***	0.018*	-0.002	0.015
	[0.017]	[0.021]	[0.022]	[0.010]	[0.012]	[0.015]
Reopened March*yr==1933	0.447***	0.432***	0.481***	-0.194***	-0.197***	-0.237***
	[0.023]	[0.025]	[0.029]	[0.031]	[0.035]	[0.037]
Reopened March*yr==1934	0.424***	0.406***	0.450***	-0.052*	-0.070*	-0.040
	[0.023]	[0.026]	[0.028]	[0.031]	[0.037]	[0.041]
Reopened March*yr==1935	0.396***	0.378***	0.420***	-0.012	-0.029	-0.002
	[0.022]	[0.025]	[0.028]	[0.032]	[0.037]	[0.042]
Reopened March*yr==1936	0.378***	0.351***	0.418***	-0.006	-0.024	-0.001
	[0.023]	[0.027]	[0.029]	[0.031]	[0.036]	[0.041]
Reopened March*yr==1937	0.357***	0.330***	0.394***	-0.004	-0.018	-0.005
	[0.024]	[0.027]	[0.031]	[0.031]	[0.035]	[0.041]
Reopened March*yr==1938	0.355***	0.323***	0.386***	-0.000	-0.010	0.004
	[0.025]	[0.029]	[0.032]	[0.031]	[0.036]	[0.041]
Reopened March*yr==1939	0.361***	0.324***	0.389***	-0.008	-0.012	-0.008
	[0.026]	[0.030]	[0.033]	[0.030]	[0.035]	[0.041]
Reopened March*yr==1940	0.367***	0.330***	0.389***	0.000	-0.003	-0.003
	[0.027]	[0.031]	[0.035]	[0.030]	[0.034]	[0.041]
Fed Dist. X Yr Fixed Effects?	Yes	Yes	Yes	Yes	Yes	Yes
1930 Pop. X Yr Fixed Effects?	Yes	Yes	Yes	Yes	Yes	Yes
Bank Fixed Effects?	Yes	Yes	Yes	Yes	Yes	Yes
Observations	53170	37947	11882	53170	37947	11882
R-squared	0.491	0.495	0.459	0.212	0.209	0.289

Notes: Table provides the coefficients of equation (3) estimated by ordinary least squares. The sample consists of all national banks present from 1928 through 1940 and that met the criteria in the column heading. Robust standard errors are provided in parentheses below the coefficients. * denotes significance at 10%; ** at 5% level and *** at 1% levels.

Table A5: Balance Sheet Changes of Reopened National Banks (1928-1940)

	Ln(Assets)			Cash+Due from Banks/Total Deposits			Loans/Assets			Capital+Surplus/Assets		
	Banks Surviving 1928-1940	Dropping Counties With City of 25,000+	Dropping Counties Without Non-March Reopened Banks	Banks Surviving 1928-1940	Dropping Counties With City of 25,000+	Dropping Counties Without Non-March Reopened Banks	Banks Surviving 1928-1940	Dropping Counties With City of 25,000+	Dropping Counties Without Non-March Reopened Banks	Banks Surviving 1928-1940	Dropping Counties With City of 25,000+	Dropping Counties Without Non-March Reopened Banks
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Reopened March*yr==1929	-0.002	-0.001	-0.005	0.005*	0.007*	0.002	-0.003	-0.002	-0.002	0.002*	0.001	0.002
	[0.007]	[0.008]	[0.009]	[0.003]	[0.004]	[0.003]	[0.003]	[0.004]	[0.004]	[0.001]	[0.001]	[0.002]
Reopened March*yr==1930	-0.005	-0.011	-0.005	0.011**	0.016***	0.002	-0.006	-0.006	-0.001	0.006***	0.005***	0.005**
	[0.009]	[0.011]	[0.012]	[0.004]	[0.006]	[0.005]	[0.004]	[0.005]	[0.005]	[0.001]	[0.002]	[0.002]
Reopened March*yr==1931	0.031**	0.024	0.030**	0.011***	0.014**	0.008	-0.018***	-0.014**	-0.012*	0.013***	0.014***	0.011***
	[0.012]	[0.015]	[0.015]	[0.004]	[0.006]	[0.005]	[0.005]	[0.007]	[0.007]	[0.002]	[0.003]	[0.003]
Reopened March*yr==1932	0.066***	0.056***	0.065***	0.021***	0.024***	0.018***	-0.026***	-0.022***	-0.026***	0.017***	0.018***	0.014***
	[0.014]	[0.016]	[0.017]	[0.004]	[0.005]	[0.005]	[0.007]	[0.008]	[0.009]	[0.002]	[0.003]	[0.003]
Reopened March*yr==1933	0.396***	0.383***	0.413***	-0.066***	-0.061***	-0.066***	-0.031***	-0.028***	-0.037***	-0.031***	-0.031***	-0.039***
	[0.021]	[0.023]	[0.026]	[0.009]	[0.012]	[0.010]	[0.009]	[0.011]	[0.010]	[0.004]	[0.005]	[0.006]
Reopened March*yr==1934	0.372***	0.356***	0.386***	-0.026***	-0.022***	-0.028***	-0.039***	-0.035***	-0.037***	-0.028***	-0.028***	-0.032***
	[0.020]	[0.023]	[0.025]	[0.007]	[0.008]	[0.008]	[0.009]	[0.011]	[0.010]	[0.004]	[0.004]	[0.005]
Reopened March*yr==1935	0.349***	0.330***	0.363***	-0.008	-0.002	-0.019**	-0.052***	-0.044***	-0.047***	-0.027***	-0.027***	-0.031***
	[0.020]	[0.022]	[0.026]	[0.007]	[0.008]	[0.008]	[0.009]	[0.011]	[0.010]	[0.003]	[0.004]	[0.005]
Reopened March*yr==1936	0.330***	0.303***	0.359***	-0.008	-0.010	-0.011	-0.064***	-0.056***	-0.066***	-0.028***	-0.026***	-0.033***
	[0.021]	[0.024]	[0.026]	[0.007]	[0.009]	[0.007]	[0.009]	[0.010]	[0.010]	[0.003]	[0.004]	[0.005]
Reopened March*yr==1937	0.314***	0.288***	0.341***	-0.014**	-0.014**	-0.012*	-0.064***	-0.056***	-0.071***	-0.024***	-0.021***	-0.029***
	[0.021]	[0.025]	[0.027]	[0.006]	[0.007]	[0.007]	[0.010]	[0.011]	[0.011]	[0.003]	[0.004]	[0.005]
Reopened March*yr==1938	0.310***	0.281***	0.331***	-0.016**	-0.015*	-0.010	-0.070***	-0.061***	-0.074***	-0.023***	-0.020***	-0.028***
	[0.022]	[0.027]	[0.029]	[0.006]	[0.008]	[0.007]	[0.010]	[0.012]	[0.012]	[0.003]	[0.004]	[0.005]
Reopened March*yr==1939	0.315***	0.282***	0.333***	-0.019**	-0.019**	-0.012	-0.077***	-0.065***	-0.079***	-0.025***	-0.021***	-0.030***
	[0.023]	[0.027]	[0.030]	[0.008]	[0.009]	[0.009]	[0.011]	[0.012]	[0.012]	[0.003]	[0.004]	[0.005]
Reopened March*yr==1940	0.319***	0.285***	0.332***	-0.015*	-0.011	-0.008	-0.079***	-0.068***	-0.080***	-0.026***	-0.023***	-0.030***
	[0.024]	[0.028]	[0.031]	[0.008]	[0.009]	[0.011]	[0.011]	[0.012]	[0.012]	[0.003]	[0.004]	[0.005]
Fed Dist. X Yr Fixed Effects?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
1930 Pop. X Yr Fixed Effects?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Bank Fixed Effects?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	53170	37947	11882	53170	37947	11882	53170	37947	11882	53170	37947	11882
R-squared	0.395	0.387	0.408	0.448	0.436	0.534	0.535	0.520	0.523	0.230	0.246	0.189

Notes: Table provides the coefficients of equation (3) estimated by ordinary least squares. The sample consists of all national banks present from 1928 through 1940 and that met the criteria in the column heading. Robust standard errors are provided in parentheses below the coefficients. * denotes significance at 10%; ** at 5% level and *** at 1% levels.

Table A6: Implications of March Reopenings on Measures of Economic Growth - Dropping Large Cities

	ΔLn(Retail Sales)		ΔLn(Wholesale Sales)	ΔLn(# of Tax Returns Filed)		ΔLn(Value Added)
	1933-1935	1933-1939	1933-1935	1933-1935	1933-1939	1933-1935
	(1)	(2)	(3)	(4)	(5)	(6)
%Unrestricted reopen by March 29	-0.000	0.006	0.034	-0.000	0.012	-0.027
	[0.013]	[0.013]	[0.059]	[0.020]	[0.025]	[0.089]
County-Level Controls?	Yes	Yes	Yes	Yes	Yes	Yes
Other Bank Controls?	Yes	Yes	Yes	Yes	Yes	Yes
State Fixed Effects?	Yes	Yes	Yes	Yes	Yes	Yes
Lagged Growth Variable?	Yes	Yes	Yes	Yes	Yes	Yes
Change in Banks 1929-1933?	Yes	Yes	Yes	Yes	Yes	Yes
Observations	2838	2838	2816	2794	2794	1973
R-squared	0.288	0.372	0.242	0.212	0.285	0.220

	ΔLn(Retail Sales)		ΔLn(Wholesale Sales)	ΔLn(# of Tax Returns Filed)		ΔLn(Value Added)
	1933-1935	1933-1939	1933-1935	1933-1935	1933-1939	1933-1935
	(7)	(8)	(9)	(10)	(11)	(12)
%Unrestricted reopen by March 29	-0.019	-0.010	0.021	-0.003	0.004	-0.043
	[0.014]	[0.015]	[0.073]	[0.023]	[0.028]	[0.108]
%Restricted reopen by March 29	-0.066***	-0.056**	-0.045	-0.010	-0.029	-0.071
	[0.025]	[0.025]	[0.100]	[0.037]	[0.048]	[0.122]
County-Level Controls?	Yes	Yes	Yes	Yes	Yes	Yes
Other Bank Controls?	Yes	Yes	Yes	Yes	Yes	Yes
State Fixed Effects?	Yes	Yes	Yes	Yes	Yes	Yes
Lagged Growth Variable?	Yes	Yes	Yes	Yes	Yes	Yes
Change in Banks 1929-1933?	Yes	Yes	Yes	Yes	Yes	Yes
Observations	2838	2838	2816	2794	2794	1973
R-squared	0.290	0.373	0.242	0.212	0.285	0.220

Notes: Table provides the coefficients of equation (5) estimated by ordinary least squares. The dependent variables is the change in the logarithm of specified variable across the period specified. Counties with a city of 25,000 or more people are dropped from the sample. County-Level Controls include the logarithm of population in 1929, fraction of the county living in an urban location of 2,500 or more people in 1929, the fraction of the adult population that is illiterate in 1929, the fraction of the population that is non-white in 1929, indicators for whether the bank was located in a city that was designed a Central Reserve City, Reserve City or had an active clearinghouse in place in 1932 and the logarithm of the number of banks in the county in 1932. Economic and Political Variables include the logarithm of number of farms per capita, the logarithm of number of manufacturing establishments per capita, the fraction of owner-operator farms that had mortgage debt, the fractions of votes for the Democrat candidates in the House of Representatives elections of 1930 and the Presidential election of 1932. The models also control for the change in each outcome variable 1929 to 1933 and the change the number of banks 1929 to the start of the Bank Holiday. Robust standard errors are provided in parentheses below the coefficients. * denotes significance at 10%; ** at 5% level and *** at 1% levels.

Table A7: Implications of March Reopenings on Measures of Economic Growth - Dropping Counties Whose Banks Were Either All Reopened or None Were Reopened

	ΔLn(Retail Sales) 1933-1939		ΔLn(Wholesale Sales) 1933-1935		ΔLn(Value Added) 1933-1935		ΔLn(# of Tax Returns Filed) 1933-1939	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
%Unrestricted reopen by March 29	-0.007	-0.019	0.066	0.099	-0.012	-0.022	-0.050	-0.061
	[0.021]	[0.023]	[0.086]	[0.100]	[0.079]	[0.093]	[0.041]	[0.048]
%Restricted reopen by March 29		-0.041		0.104		-0.032		-0.037
		[0.041]		[0.160]		[0.140]		[0.077]
County-Level Controls?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Other Bank Controls?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State Fixed Effects?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Lagged Growth Variable?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Change in Banks 1929-1933 Variable?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1220	1220	1218	1218	1031	1031	1194	1194
R-squared	0.435	0.436	0.068	0.068	0.132	0.132	0.363	0.363

Notes: Table provides the coefficients of equation (5) estimated by ordinary least squares. The dependent variables is the change in the logarithm of specified variable across the period specified. Counties that had 100% or 0% of their banks reopened in March are dropped from the sample. County-Level Controls include the logarithm of population in 1929, fraction of the county living in an urban location of 2,500 or more people in 1929, the fraction of the adult population that is illiterate in 1929, the fraction of the population that is non-white in 1929, indicators for whether the bank was located in a city that was designed a Central Reserve City, Reserve City or had an active clearinghouse in place in 1932 and the logarithm of the number of banks in the county in 1932. Economic and Political Variables include the logarithm of number of farms per capita, the logarithm of number of manufacturing establishments per capita, the fraction of owner-operator farms that had mortgage debt, the fractions of votes for the Democrat candidates in the House of Representatives elections of 1930 and the Presidential election of 1932. The models also control for the change in each outcome variable 1929 to 1933 and the change the number of banks 1929 to the start of the Bank Holiday. Robust standard errors are provided in parentheses below the coefficients. * denotes significance at 10%; ** at 5% level and *** at 1% levels.

Table A8: Implications of March Reopenings on Measures of Economic Growth - Additional Measures of Reopening

	ΔLn(Retail Sales) 1933-1939				ΔLn(Wholesale) 1933-1935			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
%Assets Unrestricted reopen by March 29	-0.014				0.016			
	[0.012]				[0.051]			
%Assets Restricted reopen by March 29	-0.060***				-0.044			
	[0.022]				[0.081]			
Number of Unrestricted reopen by March 29		-0.001				0.002		
		[0.001]				[0.003]		
Number of Restricted reopen by March 29		-0.002				0.007		
		[0.002]				[0.010]		
Indicator for Whether all Banks Unrestricted Reopened by July			-0.009				0.024	
			[0.007]				[0.026]	
Indicator for Whether all Banks Unrestricted Reopened by March 29				-0.002				0.029
				[0.007]				[0.028]
County-Level Controls?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Other Bank Controls?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State Fixed Effects?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Lagged Growth Variable?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Change in Banks 1929-1933?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	2838	2838	2838	2838	2816	2816	2816	2816
R-squared	0.374	0.372	0.372	0.372	0.242	0.242	0.242	0.242
	ΔLn(Value Added) 1933-1935				**ΔLn(Value Added) 1933-1935**			
	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
%Assets Unrestricted reopen by March 29	0.034				0.006			
	[0.074]				[0.023]			
%Assets Restricted reopen by March 29	-0.033				-0.064			
	[0.096]				[0.042]			
Number of Unrestricted reopen by March 29		0.005				0.001		
		[0.003]				[0.002]		
Number of Restricted reopen by March 29		0.011				-0.003		
		[0.008]				[0.005]		
Indicator for Whether all Banks Unrestricted Reopened by July			0.036				-0.018	
			[0.037]				[0.012]	
Indicator for Whether all Banks Unrestricted Reopened by March 29				-0.012				0.008
				[0.034]				[0.014]
County-Level Controls?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Other Bank Controls?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State Fixed Effects?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Lagged Growth Variable?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Change in Banks 1929-1933?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1973	1973	1973	1973	2794	2794	2794	2794
R-squared	0.221	0.221	0.221	0.220	0.286	0.285	0.285	0.285

Notes: Table provides the coefficients of equation (5) estimated by ordinary least squares. The dependent variables is the change in the logarithm of specified variable across the period specified. County-Level Controls include the logarithm of population in 1929, fraction of the county living in an urban location of 2,500 or more people in 1929, the fraction of the adult population that is illiterate in 1929, the fraction of the population that is non-white in 1929, indicators for whether the bank was located in a city that was designed a Central Reserve City, Reserve City or had an active clearinghouse in place in 1932 and the logarithm of the number of banks in the county in 1932. Economic and Political Variables include the logarithm of number of farms per capita, the logarithm of number of manufacturing establishments per capita, the fraction of owner-operator farms that had mortgage debt, the fractions of votes for the Democrat candidates in the House of Representatives elections of 1930 and the Presidential election of 1932. The models also control for the change in each outcome variable 1929 to 1933 and the change the number of banks 1929 to the start of the Bank Holiday. Robust standard errors are provided in parentheses below the coefficients. * denotes significance at 10%; ** at 5% level and *** at 1% levels.

Table A9: Determinants of Unrestricted Reopening in March 1933 - Examining State Regulatory Differences

	Reopened By March 29, 1933		
	(1)	(2)	(3)
Ln(Total Assets)	0.075***	0.075***	0.072***
	[0.006]	[0.006]	[0.006]
Loans/Assets	-0.078***	-0.107***	-0.093***
	[0.026]	[0.025]	[0.026]
(Cash and Due from Banks)/Deposits	1.041***	1.020***	1.090***
	[0.052]	[0.050]	[0.053]
(Capital and Surplus)/Assets	0.559***	0.431***	0.560***
	[0.066]	[0.063]	[0.066]
National Bank Indicator	0.094***	0.047***	0.088***
	[0.010]	[0.009]	[0.010]
State Bank Fed Member Indicator	0.040**	0.040**	0.046**
	[0.020]	[0.019]	[0.019]
Operates State-Wide Branches	-0.051*	-0.028	-0.063**
	[0.029]	[0.027]	[0.028]
# of Farms Per Person	0.844***	0.376*	0.837***
	[0.225]	[0.195]	[0.216]
# of Mfg. Establishments Per Person	-0.322***	-0.083	-0.430***
	[0.069]	[0.063]	[0.071]
Fraction Voted for FDR in 1932	-0.241***	-0.172***	-0.257***
	[0.054]	[0.059]	[0.054]
Fraction Voted for Dem. Candidate in 1930	0.098***	0.043	0.145***
	[0.027]	[0.034]	[0.027]
No Other Banks in Town Indicator	0.063	-0.024	0.024
	[0.112]	[0.101]	[0.110]
Fraction of Other Banks In Town That Are	0.188***	0.095***	0.177***
National Banks	[0.029]	[0.027]	[0.028]
Fraction of Other Banks in Town That Are	-0.024	-0.029	-0.020
State Fed Member Banks	[0.047]	[0.044]	[0.047]
State Suspension Before March 4			-0.054***
			[0.013]
Minimum Capital in 1929 (in Thousands)			0.001**
			[0.000]
Double Liability in 1929			-0.094***
			[0.013]
Reserve Requirement on Demand Dep. 1929			-0.013***
			[0.002]
State Fixed-Effects?	No	Yes	No
County-Level Controls?	Yes	Yes	Yes
Additional Town Bank Controls?	Yes	Yes	Yes
Observations	16555	16555	16555
R-squared	0.118	0.207	0.132
Classification Rate	74.12%	77.40%	74.45%

Notes: Table provides the marginal effects of equation (1) estimated with a logit model. The dependent variable is an indicator for whether the bank was reopened without restrictions by March 29, 1933. The sample consists of all commercial banks in July 1932 who were open at the start of the Bank Holiday. County-Level Controls include the logarithm of population in 1929, fraction of the county living in an urban location of 2,500 or more people in 1929, the fraction of the adult population that is illiterate in 1929, the fraction of the population that is non-white in 1929, indicators for whether the bank was located in a city that was designed a Central Reserve City, Reserve City or had an active clearinghouse in place in 1932 and the logarithm of the number of banks in the county in 1932. Robust standard errors are provided in parentheses below the coefficients. * denotes significance at 10%; ** at 5% level and *** at 1% levels.