DEPOSIT INSURANCE, UNINSURED DEPOSITORS,
AND LIQUIDITY RISK DURING PANICS

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ABSTRACT

The lack of universal deposit insurance coverage can create liquidity risk during financial crises. This aspect of deposit insurance is hard to test in modern data because of the broad coverage of most systems. We, therefore, study the role that the U.S. Postal Savings System played in commercial bank closures during the Great Depression. The system offered households a federally insured deposit account at post offices throughout the nation, and its structure provides a near-ideal environment to identify this competitive liquidity risk during a crisis. We find that banks that operated nearby a post office that accepted deposits were more likely to close between 1929 and 1935. We further make use of a structural change in the availability of postal depositories in the early 1910 to estimate an IV regression that confirms the results. In either model, the effect is strongest for those banks with low reserves, suggesting that the mechanism was through depositor withdrawals rather than other factors.

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While banks were failing all over the country and a veritable avalanche of funds came out of other banks, it was the Postal Savings System that salvaged much of the money withdrawn by the frightened and the timid.

-Rep. Emanuel Celler of New York (*Congressional Record*, Dec. 9, 1931, p. 235)

1. Introduction

While deposit insurance is a common solution to liquidity risk (Diamond & Dybvig 1983), the collapse of Silicon Valley Bank and Signature Bank in March 2023 has shown that the lack of universal coverage can increase liquidity risk during crises. Within days of the first run, thousands of uninsured depositors moved their accounts to banks throughout the country. Concern spread to smaller regional banks despite assurances by the Federal Reserve and Treasury. To identify this type of competitive effect, we study the role that federally insured deposits played in the Great Depression. Before the Federal Deposit Insurance Corporation (FDIC) became active in 1934, the only federally insured deposit accounts available to American households were through the U.S. Postal Savings System (1911-1967), which was offered at many (but not all) post offices throughout the nation. Postal savings deposits increased nearly 760% in real terms between June 30, 1929 and June 30, 1935, while commercial bank deposits dropped precipitously. Contemporary accounts suggest that this shift stripped needed liquidity away from banks and led to additional distress. We test whether the availability of the federally insured deposit option contributed to commercial bank closures in the early 1930s.

Deposit insurance spread throughout the world in the latter half of the 20th century as a result of external and internal political pressures favoring its adoption (Demirgüç-Kunt et al. 2008). Despite political support from organizations such as the International Monetary Fund, the European Union, and the World Bank, a large literature suggests that the moral hazard costs of deposit insurance have outweighed its benefits.[1] The literature's main focus has been on how insured banks expand their risk and increase the probability of a financial crisis occurring. The recent crisis has suggested that we must also look beyond the typical moral hazard of deposit insurance to the potential liquidity risk caused by the lack of universal coverage. This aspect is hard to test because most deposit insurance systems span all banks in a country, preventing the

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[1] See Brewer (1995), Caprio and Klingebiel (1996), Martinez-Peria and Schmukler (2001), Demirgüç-Kunt and Detragiache (2002), Demirgüç-Kunt and Huizinga (2004), Cull et al. (2005), Barth et al. (2006), Beck and Laeven (2008), Laeven and Valencia (2013), Calomiris and Jaremski (2016, 2019), and Calomiris and Chen (2023).

separation of the moral hazard consequences from the competitive liquidity risk. And while systems with low limits allow uninsured and insured depositors to exist at the same bank, it is hard to separate the effects because uninsured depositors are more likely to be high income individuals or businesses compared to insured depositors.

The historical Postal Savings System offers a near-ideal environment to identify this competitive liquidity effect. First, post offices did not make loans or investments with the deposits they collected. As such, the existence of postal savings did not cause moral hazard, allowing us to isolate the competitive liquidity risk from other factors. Second, post offices operated beside commercial banks in towns throughout the country, but not every post office accepted deposits. Since branching was largely prohibited, we can compare commercial banks that were exposed to the availability of postal savings in their town with those in otherwise identical towns that did not have postal savings. This close comparison mitigates the potential for omitted variables. Third, by construction, post offices attracted relatively few deposits before 1929, and mostly served those marginalized individuals that commercial banks did not want to pursue. Their low costs of operation allowed many post offices to accept deposits despite very limited demand. The availability of postal savings thus did not affect commercial banks during normal periods of time and their presence was not strictly related to local demand.

To examine the role that postal savings played on bank closure, we collect the balance sheets of over 16,000 commercial banks just before the start of the Great Depression and match them with information on which post offices accepted deposits. Using an OLS estimator from a linear regression, we find banks that operated nearby a post office that accepted deposits were more likely to close between 1929 and 1935 than those that did not even when controlling for bank fundamentals and location characteristics. Moreover, the effect of postal savings is severely weakened after deposit insurance was installed across commercial banks in 1934. This lends evidence to the theory that we are capturing a competitive liquidity effect due to the lack of universal coverage rather than some other mechanism.

A natural concern of the results is that the acceptance of postal deposits is endogenous to a community's demand for both postal and banking services. To alleviate these concerns, we exploit a structural change in the early 1910s as an instrument to estimate a causal effect. Shortly after creating the system, the Post Office stopped thousands of postal offices from accepting deposits and prevented most from regaining the ability despite significant economic and

population growth during the 1920s. We find that post offices that initially accepted deposits were significantly less likely to stop taking deposits in 1914-1916 if they had any usage, no matter how small that usage was. Therefore, we compare commercial banks during the Great Depression that operated in locations that had a postal savings bank with 0 depositors in the mid-1910s with those in locations that had a postal savings bank with exactly 1 depositor in the mid-1910s. Reassuringly, our instrumental variable (IV) analysis confirms our OLS results, showing that commercial banks that operated in the same town as a postal savings bank were more likely to close by 1935.

Supporting contemporary accounts, the data point to a particular mechanism for our results: liquidity risk. Even after controlling for the stabilizing effect of reserves across all banks, the effect of being near a postal office that accepted deposits on closure was primarily for those banks that had lower reserves. The result not only confirms our suggested narrative, but also adds weight to our identification technique. If post offices that accepted deposits were endogenously attracted to areas with high bank closure risk ex ante then we would expect that all banks in those areas would be more likely to close during the Great Depression. The finding that only some banks in postal savings areas were affected indicates that there is not some location-specific unobserved characteristic driving both bank closures and the presence of postal savings.

The paper provides insight into two policy debates currently being waged. First, many regulators and politicians are pushing to expand deposit insurance limits in the wake of Silicon Valley Bank. In May 2023, the FDIC published a report outlining possible deposit insurance reforms, including the potential for unlimited coverage. Politicians such as Senator Elizabeth Warren have also pushed for higher caps. The historical time period allows us to show that deposit insurance – even without explicit moral hazard – can lead to additional financial risk when coverage is not universal. This complements the surrounding literature on deposit insurance but presents policymakers with a trade-off. Systems with high coverage rates avoid this competitive liquidity risk but increase moral hazard (Calomiris and Chen 2023), whereas systems with low coverage rates limit moral hazard but increase competitive liquidity risk. Therefore, the data show that increasing the limits might eliminate the type of behavior seen during the Great Depression, but would exacerbate the moral hazard issues.

Second, the research informs the debate regarding the re-establishment of postal savings. Since 2018, there have been numerous legislative proposals to bring postal savings back, as well

as to add other basic banking functions at the post office. Senators Kirsten Gillibrand and Bernie Sanders have proposed legislation numerous times, most recently in 2022, when Sen. Gillibrand also released a report arguing that postal banking could be used by 25 million American households ("Postal Banking" 2020). Our results show that lawmakers need to take into consideration the effect that new postal banking capabilities may have on private markets.

Our results shed light on how competition among institutions for funds has the potential for worsening financial crises. Typically, studies highlight how financial crises were created by less regulated and more risky institutions attracting funds by offering a high return (Moen and Tallman 1992; Shoven et al. 1992; Gertler and Gilchrist 2018). However, we show that this competition might also worsen financial crises when they do occur. The availability of a federally insured deposit option during the Great Depression allowed investors to shift their funds into a safe asset which stripped them out of banks and led to additional closures.

We also extend the literature on the Postal Savings System. Following O'Hara and Easley (1979), Fleitas et al. (2023) show that some postal savings increases during the Great Depression were associated with a relative decline in the value of shares in local Building and Loans (B&Ls). They, however, find no effect of postal savings on commercial banks at the county-level. Our results, therefore, show that the shifting of funds might have made some commercial banks safer while making others weaker despite keeping deposit totals the same. The difference in results is likely due to postal savings deposits being redeposited back in local commercial banks as the requirement would mitigate any county-level effect. The results thus lend empirical evidence to the narrative analysis in Sprick Schuster et al. (2020) who argue the rise of postal savings during the Great Depression was a flight to quality.

2. Historical Background

Created in June 1911, the United States Postal Savings System offered individuals the ability to start a savings account at thousands of local post offices. Postal accounts paid depositors a fixed 2 percent interest rate and were initially capped at $500. Most postal deposits were to be re-deposited in commercial banks in exchange for roughly an equal amount of bonds as collateral. The deposits were a liability of the US government, meaning if a commercial bank holding postal deposits closed, postal customers' accounts would be unaffected.

While U.S. officials had initially advocated for Postal Savings based on the profitability of other international systems, the Panic of 1873 re-framed the discussion toward the security offered to savers. In his 1873 report, John A. Creswell, the Postmaster General under President Ulysses S. Grant, emphasized the safety of postal deposits and how it was a solution to the problem of savers hiding their money rather than depositing it in banks (Post Office Department 1873). In 1878, Rep. Thomas J. Tipton (R-IL) articulated the need for safety: "(P)eople all over the country will be afforded an opportunity to invest their savings with assurance that the principal will be returned with a small interest...The failure of savings banks and consequent loss, especially to the poorer class, makes the demand greater than ever before" (Congressional Record, 3/11/1878, Pg. 1680). The Panic of 1907 then helped break the political logjam and got the bill passed.

The nation's banking sector was the main opponent of postal savings. Bankers argued the Post Office would siphon money out of communities. A 1907 criticism of postal savings quoted the *London Banker's Magazine*: "The branches of the Post-Office Savings-Bank convey all the savings of the district which they receive straight up to the central office in London... it is thus removed from the district in which it originates" (Roberts 1907). The American Banking Association (ABA) consistently argued that postal savings would compete with existing banks, going so far as to distribute a letter to bankers across the country with the following passage:

> The Postmaster General naively says: 'These postal savings banks will not compete in any way with our present banks.' He thinks he is stating a fact, doubtless, but as well might a highwayman, emptying a repeating Colt at you, say: 'I am shooting these bullets at you, but I do not intend to hurt you in any way.' (Kemmerer 1917, Pg 14-15).

To mitigate bankers' fears and gather their support, politicians mandated a low fixed rate of interest, a maximum account balance of $500, and that postal funds be redeposited back into commercial banks (in exchange for bonds). This would have avoided most competition between commercial banks and post offices. Commercial banks offered higher interest rates during the period and the deposit limits on postal saving accounts would have discouraged many households from starting an account. Postal accounts were thus slated towards the small depositors that commercial banks would not normally pursue (Sprick Schuster et al. 2020).

The Post Office allowed deposits at almost 13,000 post offices by 1913. However, as constructed, most initial postal savings depositors were relatively poor and held only a small amount in their account. In 1916, $86 million ($2.5 billion in 2023 dollars) was deposited at post offices compared to $12 billion ($531 billion in 2023 dollars) in commercial banks (Treasury Department 1917). The low usage was unsurprising given the characteristics put in to avoid competition with commercial banks. To make the system more attractive, the Post Office raised the maximum account balance to $2,500 by 1917 ($78,327 in 2023 dollars).

While postal savings continued to see limited aggregate use in the 1920s, there were a few local spikes in usage linked to local banking panics. Contemporary accounts (e.g., *The St. Louis Star and Times* 1924) attributed the increasing use of postal accounts in some parts of the country to a desire for security following the bank failures of the early 1920s (Alston et al. 1994). For example, real postal deposits in Florida grew by 600% in the four years following the collapse of the state's real estate bubble in 1925-6 (Calomiris and Jaremski 2023), and the collapse of the various state deposit insurance systems in the 1920s led to large increases in local postal deposits (Davison and Ramirez 2017).

The Great Depression supercharged the demand for accounts at post offices. The 1929 Stock Market Crash and run on commercial banks in 1930 coincided with a large rise in postal deposits. Between 1928 and 1934, the amount on deposit increased by almost 760% in real dollars (687% in nominal dollars) from $152 million ($2.7 billion in 2023 dollars) to $1,198 million ($27.6 billion in 2023 dollars). Growth in postal deposits did not even stop when the FDIC became active in 1934. Almost 70% of the growth of postal deposits over the period comes from an increase in the number of depositors, rather than an increase in the size of the existing accounts. Further, the increase in postal savings deposits was greatest in locations where the Depression was most severe. Therefore, most individuals seemed happy with the higher interest rates of commercial banks during good times but shifted funds to the guaranteed low interest rate of postal savings during periods of financial stress.

While the number of post offices accepting deposits grew over the early 1930s, the flood of money out of commercial banks and into post offices was mainly occurring in towns where postal savings already existed. There is no question that post offices attracted substantial deposits during the Great Depression, but did the existence of postal savings as a federally insured option lead to additional commercial bank failures? The ability for depositors to quickly move their

funds from a local bank to a local post office presented a substantial liquidity risk. For instance, Kemmerer (1917, Pg. 80) considered the role of postal savings during a crisis:

> Opponents of postal savings said that the difference between the interest paid by the postal savings bank and that paid by the other banks would be a matter of slight consequence in times of panic, safety of deposits being the great desideratum; and that the accessibility and safety of postal savings banks would encourage excessive withdrawals from other banks.

And while post offices redeposited funds back into commercial banks, relatively few banks received any redeposits. Even at the max in the 1932/1933 fiscal year, only 5,521 of over 19,000 banks received redeposits and 3,272 were large national banks that were Fed members and subject to higher requirements. It was the small state-chartered banks in more rural areas that would have had the greatest failure risk, yet they received the fewest funds. The rest of this paper utilizes bank-level data to test whether the presence of a local federally insured option led to a higher probability of a commercial bank closing.

3. Data

Bank-level data are needed to analyze whether the availability of postal savings affected the stability of commercial banks. We collect individual balance sheet information in 1928 for national banks from the *Annual Report of the Comptroller of the Currency* and for state-chartered banks from state banking reports.[2] Several states did not report individual bank balance sheets during the period, and must be excluded from the analysis. Nevertheless, the data include nearly 65% of banks operating during 1928 and an even higher percentage of assets. We determine whether each state bank was a Fed member using the *Annual Report of the Federal Reserve Board*.

We use the list of "Discontinued Bank Titles" in the January 1935 edition of *Rand McNally Bankers' Directory* to identify bank closures. The list describes every change in a bank's title and the year of occurrence from 1929 through 1935. This allows us to avoid conflating terminal bank closures with temporary closures, location changes, or name changes, and provides a consistent source of information for all banks. The closure variable includes any

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[2] We use observations for June 1929 for Nebraska as the state did not publish any information in 1928. The results are not affected if we drop out these banks.

bank that was closed, liquidated, acquired, assumed, absorbed, consolidated, merged, or was succeeded or replaced by another bank. For name or location changes, we link closures under the new name or location back to the original bank in order to fully capture closures. Any bank not in the list is denoted as remaining open through 1935.

Town-level postal savings data are drawn from *Annual Reports on the Operation of the Postal Savings System*. Collected by Sprick Shuster et al. (2020), they include the annual value of deposits and number of depositors at each post office. Our primary year of interest is postal savings in 1928 in order to avoid endogenous changes during the Great Depression. However, the post office only reported names of post offices that had at least 1 depositor in their 1928 report. This means that post offices that accepted postal savings but had no depositors at the end of 1927/1928 fiscal year were not included in the 1928 annual reports. Fortunately, the 1927 and 1929 reports list of all postal repositories, even if they had no depositors. We therefore imputed whether a post office had postal savings in 1928 for places with missing data using whether a post office reported having a depository in 1927 or 1929 with 0 depositors. This brought us very close to the total number of postal depositories the Post Office reported being open in 1928.

Figure 1 shows the location of postal savings depositories and commercial banks in 1928. The coverage of both types of institutions matches the distribution of population (i.e., more concentrated in the Northeast and Midwest and more diffuse in the South and West). The maps also show that there is variation in postal savings availability. About 51.4% of commercial banks are located in a town that lacked postal savings in 1928. Our analysis thus should be representative of the entire nation and have sufficient treatment and control groups to identify the effect of postal savings on bank stability.

Finally, we add county-level information on population, demographics, and economic characteristics from the U.S. Census Bureau and digitized by Haines (2018) and tax return data from Fishback et al. (2011).

4. Effect of Postal Savings on Bank Closures

To test the effect of the availability of postal savings on commercial bank closures, we start with an analysis of all locations where we have balance sheet information, and then narrow the sample to make use of an instrumental variable approach. An IV is important because a post office's choice to accept deposits was not random. As seen in Figure 1, every large city had

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access to postal savings due to their dense populations and many of the extremely rural parts of the country did not. That said, the nature of the Postal Savings System reduces some of the worry about endogeneity. Deposits could be accepted in any post office with approval of the Post Office. In fact, most of the variation in postal savings in 1928 was driven by decisions of postmasters to start taking deposits in 1911/1912 and the Post Office deciding not to close them in the mid-1910s. To put it another way, after 1917, low use of postal deposits in an area did not spur closures of postal depositories. For example, 2,097 of the 5,855 postal savings banks in 1928 had less than $100 of deposits[3] and only 467 new postal banks were established between 1921 and 1928. This suggests that postal savings bank locations were driven by the initial variation of population rather than some endogenous response to growth or demand in the 1920s.

We also structure our analysis to avoid endogeneity of postal savings. Our primary measure of postal savings is whether a town had a post office that accepted deposits in 1928. We pick 1928 to avoid any endogenous choice of post offices to start taking deposits in response to bank failures during the Depression. We measure the availability of postal savings in a location rather than its deposits to avoid capturing explicit preferences for postal savings over commercial banks. Many post offices had very little money on deposit prior to 1929, but the mere existence of an office during the Great Depression could be sufficient to attract depositors away from commercial banks. The measure thus captures the mechanism we seek to observe and treats all locations the same regardless of whether they have $1 on deposit or $1 million.

We also control for characteristics that could have affected bank stability and postal savings status. First, we examine each bank's 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), surplus and undivided profits to paid-in capital, surplus, and undivided profits (i.e., profit to capital), and cash and due from banks to total deposits (i.e., cash to deposits). These measures have been found to be correlated with the probability of bank failure during the Panic of 1907 (Jaremski and Wheelock 2023), the 1920s agricultural depression (Jaremski and Wheelock 2020), and Great Depression (White 1984, Richardson and Troost 2009, Calomiris et al. 2022). They are also similar to the measures which regulators use to determine the health of bank balance sheets during modern stress tests. We further include an indicator for whether the bank

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[3] In 1913, a postmaster with a depository that no one uses would earn only an additional $0.27 a year from the existence of postal savings (Congressional Record 63 Cong. 2nd Session (1913) LI part 1, Pg 654)

was a national bank or a Fed member state bank (with state-chartered, non-Fed member banks as the excluded group) to capture their higher regulatory requirements and supervision.

Second, we include basic county-level demographic and economic control variables in 1929 that account for local variation that could influence bank stability and induce the local post office to accept deposits. These variables include: the logarithm of population, fraction of the county living in an urban location of 2,500 or more people, the fraction of the adult population that is illiterate, the fraction of the population that is non-white, the logarithm of the number of farms per capita and the logarithm of the number of manufacturing establishments per capita, the logarithm of the number of people who filed a tax return in 1928 (a proxy for households with high income), and indicators for whether the bank was located in a city that was designated a Central Reserve City or Reserve City.

Third, we include state-fixed effects to capture both regional differences in economic activity as well as differential bank regulations. For instance, Mitchener and Jaremski (2015) show wide differences in the types of regulation and supervision that each state installed.

4.1 Nation-Wide Analysis

We start our analysis of commercial bank closures by utilizing the full sample of commercial banks that had balance sheet data for 1928. We use OLS to estimate the probability that a bank present in 1928 closed by 1935. The model is estimated using a linear regression:[4]

$$Closure_i = a + \beta_1 Postal_i + \beta_2 BalSheet_i + \beta_3 X_i + \beta_4 State_i + e_i \ (1)$$

where $Closure_i$ is an indicator for whether bank *i* had closed between 1929 and 1935, $Postal_i$ is an indicator for whether the location had an open postal savings bank in 1928, $BalSheet_i$ is a vector of bank balance sheet items in 1928 discussed above and indicators for whether the bank is a national bank or a Fed member. X_i is a vector of Census characteristics from Haines (2008) discussed above. $State_i$ is a vector of state indicator variables, and e_i is Huber-White robust standard errors clustered at the state level.

Table 1 provides the effects estimated of equation (1) for the full sample of banks. As seen in column 1, having a local post office that accepted deposits in 1928 was positively

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[4] We estimate a linear probability model to be consistent with the instrumental variable regressions in the next section. The results are similar if we use a logit or probit model.

correlated with a bank's probability of closure over the Great Depression. Specifically, a bank that was in the same town as postal savings was about 3.4 percentage points more likely to close.

We also divide the analysis by the type of bank charter. Compared to state-charted banks, national banks (which were chartered by the Office of the Comptroller of the Currency) had much higher capital and reserve requirements, and as such they tended to be larger and less likely to close (White 1984). The results show that the effect of postal savings was particularly large for state banks, but their effect on national banks falls just outside standard statistical significance (i.e., a p-value of 0.161). This makes sense as individuals would likely have been more worried about their deposits at state banks.

We test whether the results are sensitive to different samples and variable definitions. First, one potential concern with post offices is that they required some amount of population to operate. Nearly every large city had one, and very few rural areas did. Therefore, we drop locations with either 1st or 4th-class post offices (i.e., the largest cities and smallest towns) in Table 2. The results are slightly lower when focusing on locations in the middle of the population distribution, but still economically and statistically significant. As such, access to a postal savings account seems to have represented a liquidity risk to nearby commercial banks, and the effect is not driven by a comparison of the most and least populated areas.

Second, Table 3 shows the regression results when we estimate equation (1) with different closure periods. The FDIC was created by the Glass-Steagall Act in July 1933 (and become active in January 1934) which might have weakened the attraction of postal savings banks. Therefore, if the effect of postal savings was supposedly through its federal guarantee, then we should expect to see its effect decline in late-1933 and afterward. As expected, the positive effect of the availability of postal savings in 1928 on closures during the Great Depression is concentrated in the early closures. The coefficient when focusing on closures between 1929 and 1932 remains positive and statistically significant, while the coefficient when focusing on closures between 1933 and 1935 is positive but smaller and only significant at the 10% level. Much of the remaining explanatory power between 1933 and 1935, however, was from closures before the March 1933 bank holiday (see Jaremski et al. 2024 for a discussion of period). While unreported, we find an even smaller, statistically insignificant result when we look only at closures in 1934-1935. This suggests that the introduction of the FDIC decreased the risk posed by the local availability of postal savings.

Third, in columns 4 and 5 of Table 3, we rule out that the results are being driven by our choice of postal savings year. Some post offices stopped taking deposits and a few new post offices began taking them during the 1920s. When we use 1920 postal savings presence as the independent variable, the coefficient is still statistically significant, but is smaller in value. The lower value suggests that those postal savings banks that closed between 1920 and 1928 did not have the same effect on bank closure during the Great Depression as those that operating in 1928 and those postal savings banks that opened did.

Similarly, several postal savings banks were created or re-established during the Great Depression. As this entry is likely endogenous to financial distress, we did not previously want to include those entrants in the analysis. The effect of having postal saving availability in 1935 is of the same sign and significance to that in 1928, but with a larger coefficient. The higher point estimate suggests that postal banks were being introduced in towns where banks closed during the Depression. We test this assertion in Appendix Table A1. Looking only at places without any postal savings in 1928, we show that those places where a post office began accepting deposits between 1929 and 1935 were positively and significantly correlated with bank closures in those places over the same period. While we do not observe the month of postal savings entry or commercial bank closure to pin down timing, the results suggest that postal savings was either entering places just before or just after a bank closed. This supports our interpretation that local depositors saw postal savings as important for their federal guarantee.

4.2 Instrumental Variables Analysis

The nationwide analysis shows a strong correlation between bank closure and depositors' ability to make insured deposits at a local post office. However, as previously described, those places with postal savings were likely to be different than those without them on average. To isolate a causal effect, we make use of a structural change that took place in the mid-1910s. Nearly every post office rushed to start receiving deposits in 1911, with the number of depositories peaking at 12,820 in 1913. Almost every Presidential post office (1st, 2nd, or 3rd class) had postal savings by this point. However, given the low take-up rate of the service in the first few years, the Postmaster General ordered many post offices to stop taking deposits during the period surrounding World War I. Between 1913 and 1917, 5,659 post offices were ordered to

stop.[5] But after surviving through 1920, only 3.7% of post offices stopped taking deposits in the 1920s. Of those post offices that closed their depositories, very few re-opened them in the 1920, though some were reestablished during the expansion of postal savings during the early Depression.

The Post Office did not provide guidelines for which local post offices would be forced to stop taking deposits, but their approach is visible in the data. Some of it was due to post office size. Nearly all 4th class postal depositories were closed in 1914. Conversely, nearly all 1st class postal depositories were kept open. The decisions for 2nd and 3rd class postal depositories appear to be determined by depositors in those first few years. Specifically, of depositories in 2nd and 3rd class post offices where we observe exactly 1 depositor at the 1913/1914 year-end snapshots, less than 1% of them closed by 1915. Of those where we do not observe any depositors in the 1913/1914 year end snapshots, 56% closed by 1915. The Post Office appeared to follow a similar strategy in the following year. Of the places where we do not observe any depositors in 1914/1915, 93% were closed by 1916, compared to only 24% of those with 1 depositor. This division is astonishing as nearly all of the single depositors held less than $5 on deposit. It reflects the low operating costs of the system. Receiving postal deposits did not require any extra buildings or personal at the local post office and commercial banks that received redeposits paid for most of the other expenses of local post offices.

As seen in Figure 2, the Post Office continued to stop more post offices from taking deposits after 1915.[6] By 1927, only 6.3% of 0-depositor places still had postal savings, while 21.81% of 1-depositor places did. This means that having a single depositor in 1913-1915 more than tripled the chances that a post office would still offer postal savings more than a decade later. During the Depression, the number of post offices accepting deposits increased, but there was still a large difference between places that had 0 or 1 depositor in the mid-1910s.

The data suggest that the Post Office made closing decisions based on almost any activity at the local office in 1913-1915 and did not reestablish almost any of those depositories before 1929 despite substantial economic and population growth. We, therefore, focus on the sample of banks in locations that had postal savings with either 0 or 1 depositors in 1913/1914 or

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[5] Reported in Appendix Table A2, those locations that had postal savings bank at some point before 1928 but lost it did not experience a higher bank closure rate than those locations that never established postal savings.
[6] Appendix Figure A1 shows the same graph with more depositor cutoffs. As would be expected, the probability of remaining open increases linearly with the number of depositors.

1914/1915 (see geographic distribution in Figure 3), and use the presence of having only one depositor as an instrument for having postal savings in 1928. The benefit of the IV is that all locations with 0 or 1 depositors chose to take postal savings initially, and the choice of a single person in an area to put even $1 on deposit was likely relatively random. We test this assumption in Table 4. We show a number of the Census characteristics used in equation (1) both in 1909 and 1929, additional information on the post office and the local population both in 1909 and 1929, and the balance sheet ratios in 1928 for places that had 0 depositors and those that only had 1 depositor. The places are similar on most dimensions. The variables for which the two groups of locations are significantly different are for the postmaster's salary, the number of banks, the number of people paying federal income tax, and the fraction of the population that was non-white. Because the postmasters' salaries would be affected by postal savings levels themselves, the difference in the non-postal savings components of a postmaster salary is even smaller. The difference in non-white population seems solely driven by the South having fewer commercial and postal savings banks than the rest of the country rather than a true difference within regions. Encouragingly, when there are differences, they are not differences that would predict bank closures in places with postal savings availability.

Comparing banks in the two locations, we find the banks in the one-depositor sample have more assets, issued a smaller share of loans, but also had less reserves compared to those in the zero-depositor town. As seen in Table 1, banks with larger assets and fewer loans are less likely to fail, suggesting that banks in one-depositor towns may be slightly healthier along these metrics. However, banks with less cash and due from other banks to deposits are more likely to fail. Fortunately, this difference in reserves is economically small and the total closure risk of the portfolio is higher in places with 1 depositor. Specifically, if we use the estimates from Column 1 of Table 1 to predict the probability of closure, the average bank in 1-depositor towns are 0.45 percentage points less likely to fail that the average bank in 0 depositor towns. Taken together, these averages suggest that there is no systematic difference in the 1928 balance sheets between banks in towns with zero depositors in 1913-1915 and those with one depositor that would drive the results we find.

Using a sample of banks in locations that had a postal savings bank in 1913-15 that had 0 or 1 depositor, our IV specification, estimated via 2SLS, is as follows:

$$Closure_i = a + \beta_1 BalSheet_i + \beta_2 \widehat{Postal}_i + \beta_3 X_i + \beta_4 State_i + e_i \ (2A)$$

$$Postal_i = a + \pi Depositors_i + \xi BalSheet_i + \xi X_i + u_i \qquad \text{(2B)}$$

where the second-stage regression in equation (2A) is essentially the same as equation (1) above. The only differences are: our indicator for being in a Reserve City is dropped, as no towns in our IV sample were a Reserve City; $\widehat{Postal}_i$ is now a predicted value, based on the results of the first-stage regression. In the first-stage regression below it, the indicator for having an active postal savings bank in 1928 is regressed on an indicator for whether the postal bank had 1 depositor in 1913-1915 ($Depositors_i = 1$) as well as the same balance sheet and Census controls as in the second stage.

The first stage results of equation (2B) are provided in the bottom panel of Table 5. The treatment effect of having 1 depositor in 1913-1915 (as opposed to having zero) is significantly correlated with having an open postal savings bank in 1928. The effect is also economically significant. Places with 1 depositor in 1913-1915 were 10.1 percentage points percent more likely to have an open postal savings bank in 1928. The second and third columns show the first-stage regressions for towns with national and state banks separately. In both the sample using all banks, and in each of the sub-samples, the instrument is a strong predictor of postal bank locations. For instance, for the full sample, the Cragg-Donald Wald F statistic for this regression is 52.266, well above the Stock-Yogo weak IV critical value (16.38).

The second stage results of equation (2A) in the top panel of Table 5 confirm the findings in Table 1, though the effect is even larger. Having an open postal savings bank in 1928 is associated with a higher probability of closure for the full sample. For the banks within our 0/1 sample, having a postal depository is associated with a 56.2 percentage point increase in the likelihood of closing. The effects are similar for national and state banks. Having a postal depository in a town significantly increased the likelihood that a bank closed.

The IV estimates are larger than the OLS estimates for three reasons. First, places that had postal savings in 1928 likely have more demand for banking services in general and therefore were less likely to close. This would bias our OLS estimates towards zero, and removing this bias would result in a positive shift in the estimates. Second, there is a significant difference between the IV and OLS samples. While many towns only had 0 or 1 depositors, these towns were overwhelmingly small (our IV sample has a median population of 924, compared to 2,375 for all towns). The banks in these towns were also smaller than average ($456,174 in median assets for our IV sample, $554,153 for the all banks). The rise in postal savings (from

$354 in 1928 to $46,560 in 1934) thus would have had a larger effect in the IV sample than full sample. Third, very few of the banks in the sample were receiving postal redeposits. If postal redeposits were a mechanism through which banks were supposed to be protected from competition from the Post Office, then this subset of banks was outside that sphere of protection. These factors mean that this group of banks may have been especially likely to be negatively affected by the liquidity risks that came with having a federally insured deposit competing for funds.

These results show that the existence of postal savings depositories, which were federally insured, significantly increased the likelihood that commercial banks in the same town closed during the Great Depression. The post office could have reduced bank failures by closing more postal depositories, but instead did the opposite. Given the demand for secure deposits, the post office expanded the number of offices with postal savings, exacerbating the liquidity crisis faced by nearby banks. Instead, the closures in towns with postal savings appear to have been driven by a liquidity crisis caused by the existence of a federally insured depository option. By offering such deposits, the post office soaked up millions of dollars that would have otherwise gone to, or remained in, local banks.

4.3 Mechanism

The previous empirical analysis has shown that the availability of local postal savings is associated with a higher probability of closure for surrounding commercial banks. Based on contemporary accounts, we have interpreted this as depositors removing their funds from commercial banks during the crises thus draining liquidity from banks. This section tests this assertion. Specifically, if our results are driven by liquidity risk, then the effect of nearby postal savings should be particularly strong for banks with low levels of liquidity. We, therefore, estimate equation (1) when adding an interaction between the postal savings indicator and each bank's reserves in 1928. The model is:

$$Closure_i = a + \beta_1 Postal_i + \beta_2 Postal_i X Reserves_i + \beta_3 BalSheet_i + \beta_4 X_i$$
$$+ \beta_5 State_i + e_i \ (3)$$

where $Reserves_i$ is the level of the bank i's reserves (i.e., cash and due from banks to total deposits), and the rest of the variables retain their previous definitions. The interaction tests whether high liquidity banks had a higher or lower effect of being near a postal savings bank

while controlling separately for the level of $Reserves_i$ and $Postal_i$ to capture the average effect of liquidity and the average effect of postal savings.

Table 6 reports the estimates of equation (3). The coefficient on "Has Postal Savings" now shows the estimated effect of postal savings on a hypothetical bank with no reserves. The large coefficient shows that banks with low levels of reserves were especially likely to close when a postal repository was present. The interaction term shows that the likelihood that a bank closed when a postal repository was near decreased as that bank's reserves increased. Specifically, moving from the 25th percentile of reserves (0.1249) to the 75th percentile (0.2458) decreased the effect of postal savings on closure from 4.18% to 2.36% percentage points. Note that the general effect of reserves on all banks remains negatively correlated with closure. In this way, the interaction pulls out the extra importance of liquidity when a bank is near a post office that accepted deposits. The evidence suggests that liquidity constraints were driving the closures associated with postal savings.

We can also test for a similar liquidity effect within our instrumental variable framework. Specifically, we estimate the IV regression separately for those banks with above median levels of reserves and those with below median levels. The results in Table 7 show that banks with higher levels of reserves had much less of an effect of closing when located nearby a post office that accepted deposits than those with lower. Specifically, the effect on the probability of closure of being located near postal savings was 0.738 if the bank had reserves at or below the median and was 0.145 if the bank had reserves at or above the median. In this way, it is clear that being located near a postal savings bank was primarily affecting those banks with low reserves.

The result suggests that the effect of postal savings on commercial banks operated through a liquidity risk channel. It also provides evidence that we are measuring a true effect of postal savings on commercial banks rather than some unobserved characteristic that was correlated with both postal savings and commercial bank closure. If there was some unobserved characteristic, then it should have affected all banks and would not have been isolated to those banks with low liquidity.

5. Conclusion

The lack of universal deposit insurance can affect depositor behavior, shifting funds away from uninsured accounts towards insured ones, potentially exacerbating runs on banks and

creating liquidity problems for financial institutions during crises. Using a historical setting, we find that the existence of a federally insured deposit opportunity significantly increased the likelihood that banks closed during the early years of the Great Depression. The Postal Savings System offered the first federally insured deposits, allowing people to deposit money in thousands of post offices nationwide. While largely unused for over two decades, the Great Depression led to a substantial increase in demand for postal accounts, stripping liquidity out of banks when it was needed the most. The effect of postal savings availability, however, disappears when federal deposit insurance was spread across all commercial banks.

Using a structural change in the availability of postal savings, we identified plausibly random variation in where postal deposits were available. The post office was significantly less likely to stop accepting postal deposits in offices with one depositor in the early years of the system. Using a sample of all offices with either 0 or 1 depositor, an instrumental variable framework shows that banks in towns with postal savings were more likely to close than otherwise identical towns without postal savings. This effect illustrates how the draw of deposit insurance created a flow of money out of commercial banks. The data further show that the availability of a postal savings was associated with liquidity risk at nearby commercial banks. Specifically, the effect of postal savings is primarily on those banks that had relatively lower reserves before the Great Depression. In this way, we are confident that the effect we are measuring is not some unobserved characteristic that drives both bank closure and postal savings, but rather is an effect of depositors withdrawing money in response to having a federally insured alternative.

These findings advance both our historical understanding of the Great Depression and the current debate about postal banking. The results shown here support the idea that liquidity was a driving factor in bank closures during the Great Depression. Lawmakers and regulators interested in re-establishing the Postal Savings System should take note of these results. Though the system was explicitly designed to avoid competition with banks, we find that such competition nonetheless occurred for two reasons. First, legislators who established postal savings underestimated the appeal of deposit insurance, even though contemporary accounts argued that such insurance would be especially appealing to depositors in times of turmoil. Second, the redeposit mechanism of the system was insufficient to insulate banks from

competition. The post office only allowed some banks to accept redeposits, leaving other banks fully exposed to the liquidity pressures that resulted from the draw of postal deposits.

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Figure 1: Location of Postal Savings Depositories and Commercial Banks, 1928
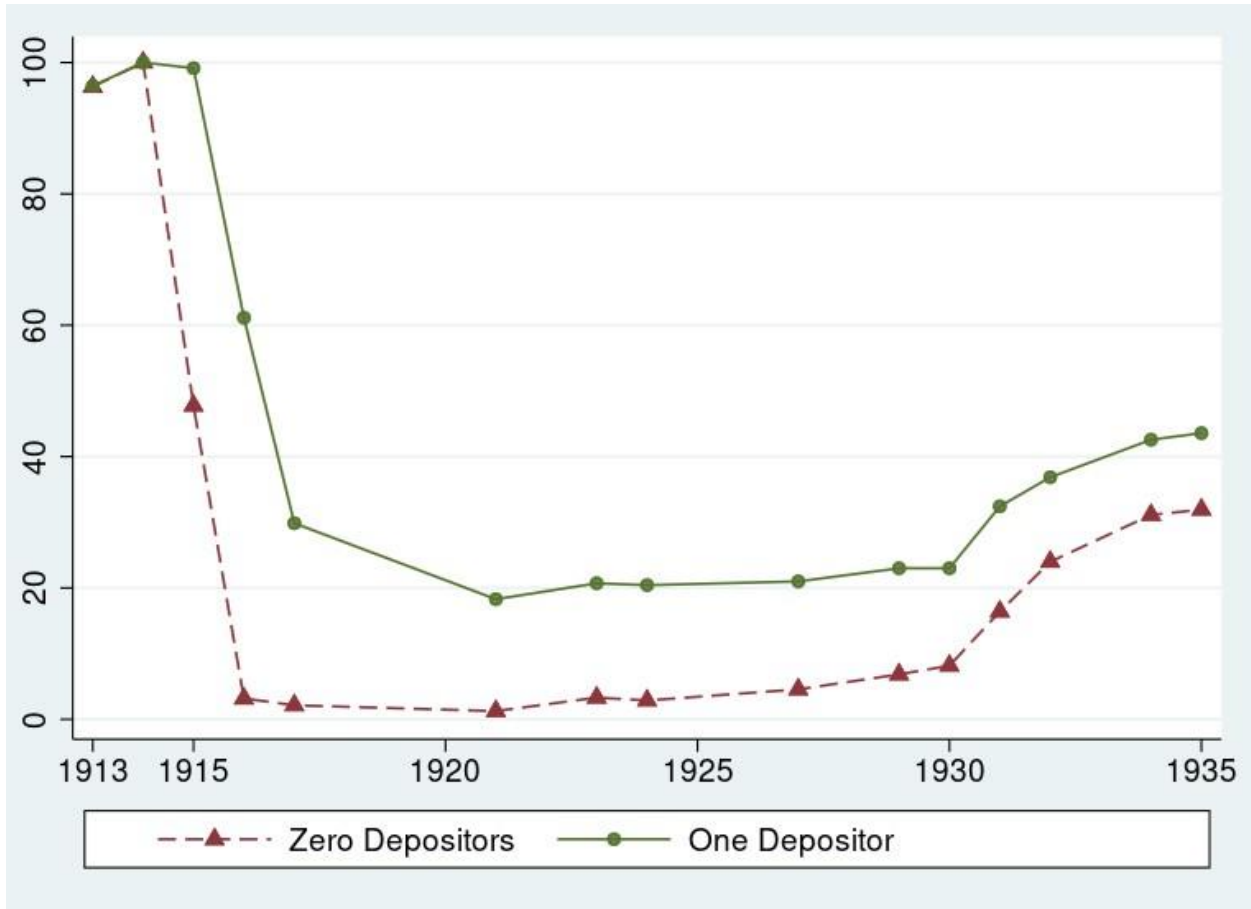**Panel A: Postal Savings Depositories**
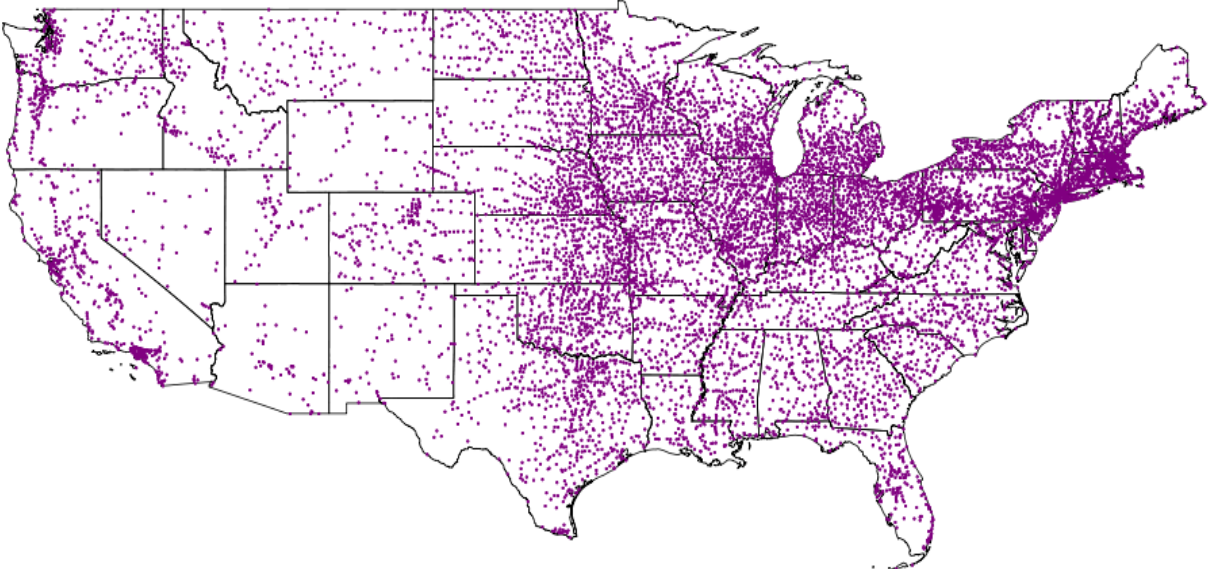

Panel B: Commercial Banks
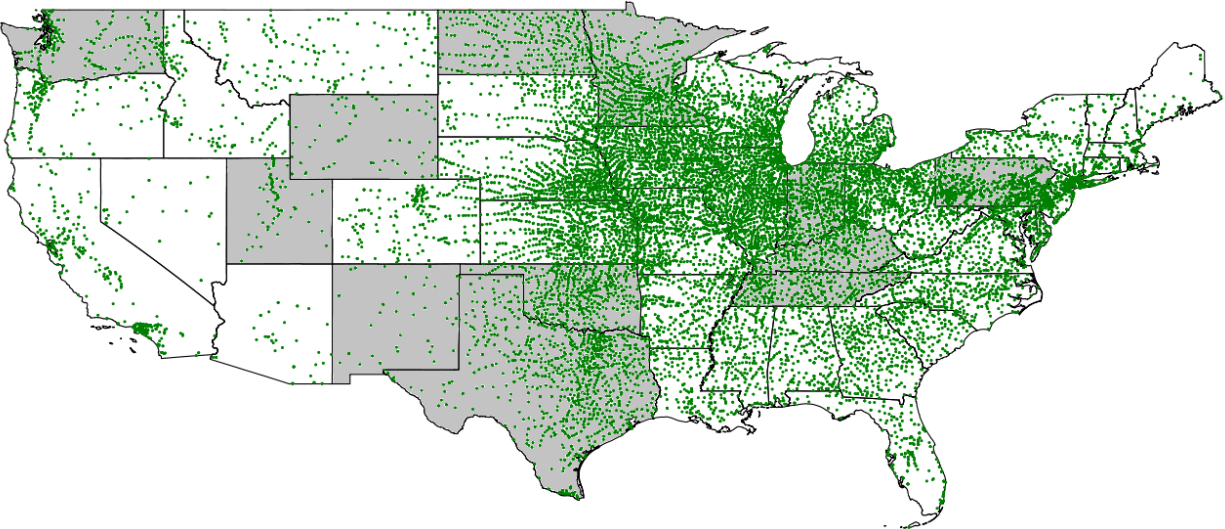
Note: Panel A shows the location of all postal savings depositories in operation in 1928. Panel B shows the location of all towns that has a commercial bank in 1928. The shaded states are those for which we do not have balance sheet data.

Figure 2: Survival of Postal Savings Depositories (1913-1935)

Note: Figure shows the percent of postal depositories that were open in 1914 that remained open in subsequent years. The "One Depositor" group is depositories with exactly one depositor in 1913/1914 or 1914/1915. The "Zero Depositors" group is depositories with no depositors during that time. This graph includes all years where open depositors with 0 deposits are fully listed in the data.

Figure 3: Location of Postal Savings Depositories in IV Sample
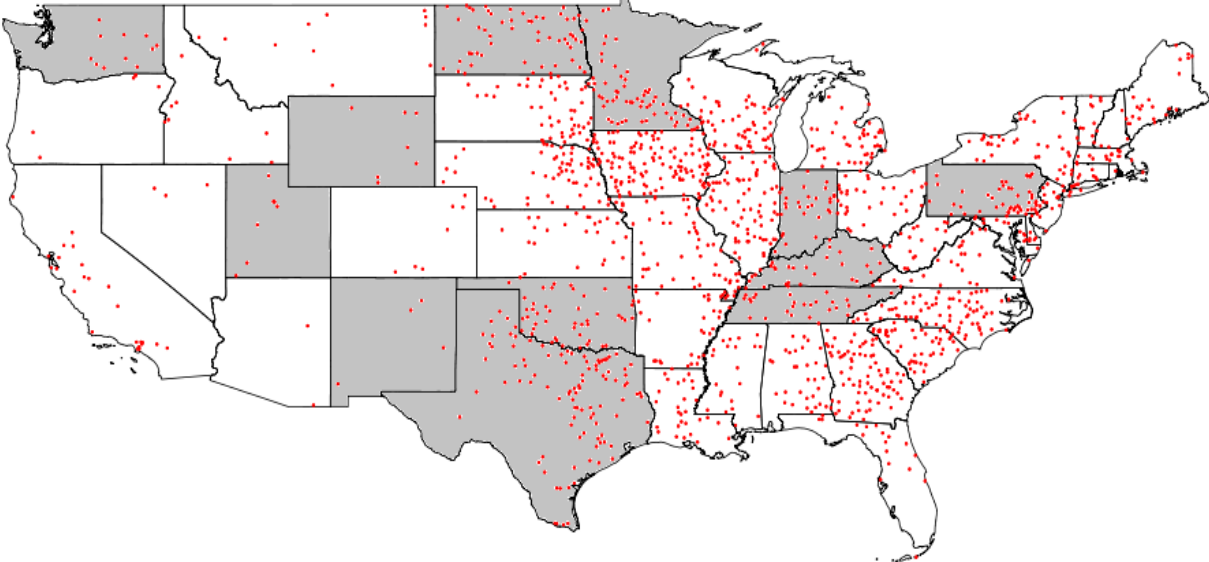
Note: Figure shows the location of all postal savings depositories that were in operation in 1913-1915 and had 0 or 1 depositor. The shaded states are states for which we do not have balance sheet data and are therefore not part of our IV sample.

Table 1: Effect of Postal Savings Availability on Bank Closure (1929-1935)

VARIABLES	(1) All Banks	(2) National Banks	(3) State Banks
Has Postal Savings (1928)	0.0326**	0.0241	0.0332*
	(0.0141)	(0.0168)	(0.0167)
Ln(Assets)	-0.0447***	-0.0354***	-0.0438***
	(0.00844)	(0.00994)	(0.00991)
Cash/Deposits	-0.281***	-0.460***	-0.207***
	(0.0632)	(0.129)	(0.0642)
Loans/Assets	0.190***	0.165**	0.229***
	(0.0387)	(0.0623)	(0.0431)
(Profits+Capital)/Assets	-0.158*	-0.284	-0.136
	(0.0876)	(0.173)	(0.0865)
Profits/(Profits+Capital)	-0.405***	-0.442***	-0.430***
	(0.0368)	(0.0477)	(0.0408)
Observations	16,796	4,603	12,193
Location Characteristics	Y	Y	Y
State Fixed Effects	Y	Y	Y
R-squared	0.104	0.114	0.111

Note: Results from a linear regression. The outcome variable is an indicator for whether a bank closed, for any reason, from 1929-1935. The sample contains all towns for which we have balance sheet data. Location characteristics include log of county population, log of tax returns per county, the log of manufacturing facilities per capita, the log of farms per capita, the percent of a county that is urban, the percent of county population that is white, and whether the town was a reserve city. We also control for whether the bank is a Fed member or a national bank. Standard errors clustered at the state level are provided in parentheses. *** $p<0.01$, ** $p<0.05$, *$p<0.1$

Table 2: Effect of Postal Savings Availability on Bank Closure (1929-1935), Mid-Sized Towns

VARIABLES	(1) All Banks	(2) National Banks	(3) State Banks
Has Postal Savings (1928)	0.0273**	0.0107	0.0295**
	(0.0123)	(0.0198)	(0.0142)
Ln(Assets)	-0.0535***	-0.0299	-0.0585***
	(0.0116)	(0.0187)	(0.0132)
Cash/Deposits	-0.410***	-0.542***	-0.319***
	(0.0976)	(0.145)	(0.113)
Loans/Assets	0.235***	0.219***	0.290***
	(0.0448)	(0.0665)	(0.0492)
(Profits+Capital)/Assets	-0.423***	-0.496*	-0.463***
	(0.150)	(0.280)	(0.163)
Profits/(Profits+Capital)	-0.372***	-0.450***	-0.361***
	(0.0402)	(0.0615)	(0.0438)
Observations	8,435	3,019	5,416
Location Characteristics	Y	Y	Y
State Fixed Effects	Y	Y	Y
R-squared	0.107	0.116	0.122

Note: Results from a linear regression. The outcome variable is an indicator for whether a bank closed, for any reason, from 1929-1935. The sample contains all towns for which we have balance sheet data in towns with 2nd or 3rd class post offices. Location characteristics include log of county population, log of tax returns per county, the log of manufacturing facilities per capita, the log of farms per capita, the percent of a county that is urban, the percent of county population that is white, and whether the town is a reserve city. We also control for whether the bank is a Fed member or a national bank. Standard errors clustered at the state level are provided in parentheses. *** $p<0.01$, ** $p<0.05$, *$p<0.1$

Table 3: Effect of Postal Savings Availability on Bank Closure, Alternative Specifications

	(1)	(2)	(3)	(4)	(5)
	Closed 1929-1935	Closed 1929-1932	Closed 1933-1935	Closed 1929-1935	Closed 1929-1935
VARIABLES					
Has Postal Savings (1928)	0.0326**	0.0331**	0.0105		
	(0.0141)	(0.0155)	(0.00809)		
Has Postal Savings (1920)				0.0441***	
				(0.0141)	
Has Postal Savings (1935)					0.0685***
					(0.0125)
Ln(Assets)	-0.0447***	-0.0281***	-0.0418***	-0.0449***	-0.0532***
	(0.00844)	(0.00784)	(0.00728)	(0.00791)	(0.00873)
Cash/Deposits	-0.281***	-0.252***	-0.168***	-0.00721**	-0.271***
	(0.0632)	(0.0701)	(0.0579)	(0.00278)	(0.0631)
Loans/Assets	0.190***	0.253***	-0.0174	0.262***	0.196***
	(0.0387)	(0.0523)	(0.0379)	(0.0442)	(0.0397)
(Profits+Capital)/Assets	-0.158*	-0.0713	-0.158**	-0.247***	-0.177**
	(0.0876)	(0.0850)	(0.0761)	(0.0649)	(0.0867)
Profits/(Profits+Capital)	-0.405***	-0.444***	-0.111***	-0.393***	-0.395***
	(0.0368)	(0.0329)	(0.0279)	(0.0349)	(0.0377)
Observations	16,796	14,632	12,197	16,837	16,796
Location Characteristics	Y	Y	Y	Y	Y
State Fixed Effects	Y	Y	Y	Y	Y
R-Squared	0.104	0.120	0.053	0.102	0.107

Note: Results are from a linear regression. Column 1 repeats the results from Column 1 of Table 1, where the outcome variable is an indicator for whether a bank closed, for any reason, from the dates provides in the column headings. The sample contains all towns for which we have balance sheet data. Location characteristics include: log of county population, log of tax returns per county, the log of manufacturing facilities per capita, the log of farms per capita, the percent of a county that is urban, the percent of county population that is white, and whether the town is a reserve city. We also control for whether the bank is a Fed member or a national bank. Robust Standard errors in parentheses. *** p<0.01, ** p<0.05, *p<0.1

Table 4: Comparison of Postal Savings Locations

Variable	Zero Depositors Locations	One Depositor Locations	Difference
Town-level Variables			
Postmaster Salary (1913)	1,441 (281)	1,552 (349)	111***
Number of Banks Per Town (1928)	1.81 (0.70)	1.88 (0.73)	0.07**
Log(County Population) (1929)	10.16 (0.89)	10.22 (0.92)	0.06
County-level Variables			
County Percent Urban (2,500+) (1929)	19.46 (23.28)	21.15 (23.22)	1.69
Farm Per Person (1929)	0.106 (0.044)	0.103 (0.044)	0.003
Manufacturing Facility Per Person (1929)	0.0012 (0.0008)	0.0012 (0.0008)	0.00
Log(County-level tax returns) (1928)	5.41 (1.61)	5.62 (1.58)	0.21***
Percent White (1929)	85.87 (20.92)	89.05 (18.44)	3.18***
Bank-level Variables (in 1928)			
Ln(Bank Assets)	13.03 (0.72)	13.15 (0.76)	0.12***
$\dfrac{Cash}{Deposits}$	0.204 (0.115)	0.192 (0.148)	-0.012**
$\dfrac{Loans}{Assets}$	0.619 (0.152)	0.603 (0.151)	-.016**
$\dfrac{Capital + Profits}{Assets}$	0.151 (0.063)	0.147 (0.064)	-0.003
$\dfrac{Profits}{Profits + Capital}$	0.392 (0.200)	0.392 (0.20)	0.000

Note: Table shows the average values for variables of interest between towns with zero depositors in 1913-1915 and those with 1 depositor in 1913-1915. Standard deviations are in parentheses below the averages. The differences are shown, and 2-sided t-tests were performed to determine if the zero and one-depositor groups differed. *** $p<0.01$, ** $p<0.05$, * $p<0.1$

Table 5: Instrumental Variables Regression of Postal Savings Availability on Bank Closure (1929-1935)

	PANEL A: Dependent Variable=Bank Closure			
	Instrumental Variable			Reduced Form
	(1)	(2)	(3)	(4)
VARIABLES	All Banks	National Banks	State Banks	All Banks
Has Postal Savings (1928)	0.562***	0.659**	0.530**	
	(0.198)	(0.329)	(0.245)	
One Depositor in 1913/1915				0.0569***
				(0.0162)
Ln(Assets)	-0.0862***	-0.153**	-0.0610**	-0.481***
	(0.0311)	(0.0633)	(0.0305)	(0.0226)
Cash/Deposits	-0.386**	-0.515*	-0.329*	-0.291
	(0.186)	(0.295)	(0.198)	(0.176)
Loans/Assets	0.398***	0.304*	0.478***	0.394***
	(0.108)	(0.172)	(0.128)	(0.107)
(Profits+Capital)/Assets	-0.402	-0.199	-0.471*	-0.343
	(0.303)	(0.712)	(0.249)	(0.263)
Profits/(Profits+Capital)	-0.350***	-0.478**	-0.345***	-0.397***
	(0.0703)	(0.195)	(0.0640)	(0.0673)
Observations	2,186	610	1,576	2,186
Location Characteristics	Y	Y	Y	Y
State Fixed Effects	Y	Y	Y	Y
Cragg-Donald Wald F Statistic	52.266	23.495	19.516	
	PANEL B: Dependent Variable=Has Postal Savings in 1928			
	First-Stage Regression			
One Depositor in 1913/1915	0.101***	0.139***	0.0826***	
	(0.0198)	(0.378)	(0.187)	
Observations	2,186	610	1,576	
Bank Characteristics	Y	Y	Y	
Location Characteristics	Y	Y	Y	
State Fixed Effects	Y	Y	Y	
R-Squared	0.126	0.206	0.122	

Note: Columns 1-3 of Panel A shows the results of an instrumental variables regression. The outcome variable is an indicator for whether a bank closed, for any reason, from 1929-1935. Panel B shows the first-stage regression for each of the IV regressions in columns 1-3, and the reduced form regression in column 4. All regressions include the following location controls: log of county population, log of tax returns per county, the log of manufacturing facilities per capita, the log of farms per capita, the percent of a county that is urban. the percent of county population that is white, and whether the town is a reserve city. Bank controls are: the logarithm of total assets, loans to assets, paid-in capital, surplus, and undivided profits to assets (i.e., capital to assets), surplus and undivided profits to paid-in capital, surplus, and undivided profits (i.e., profit to capital), and cash and due from banks to total deposits (i.e., cash to deposits), and a dummy variable for national bank status (Column 1). State fixed effects are included. Standard errors clustered at the state level are provided in parentheses. *** $p<0.01$, ** $p<0.05$, * $p<0.1$

Table 6: Effect of Postal Savings Availability on Bank Closure (1929-1935), With Bank Reserve Interaction

VARIABLES	(1) All Banks	(2) National Banks	(3) State Banks
Has Postal Savings (1928)	0.0605**	0.0863*	0.0356
	(0.0243)	(0.0454)	(0.0255)
Has Postal Savings (1928) X Cash/Deposits	-0.150*	-0.343*	-0.0132
	(0.0836)	(0.190)	(0.0776)
Ln(Assets)	-0.0443***	-0.0345***	-0.0438***
	(0.00836)	(0.00992)	(0.00986)
Cash/Deposits	-0.224***	-0.257	-0.203***
	(0.0654)	(0.167)	(0.0673)
Loans/Assets	0.193***	0.169**	0.230***
	(0.0390)	(0.0636)	(0.0431)
(Profits+Capital)/Assets	-0.150*	-0.270	-0.136
	(0.0885)	(0.171)	(0.0870)
Profits/(Profits+Capital)	-0.409***	-0.441***	-0.431***
	(0.0368)	(0.0479)	(0.0408)
Observations	16,796	4,603	12,193
Location Characteristics	Y	Y	Y
State Fixed Effects	Y	Y	Y
R-squared	0.104	0.115	0.111

Note: Results from a linear regression. The outcome variable is an indicator for whether a bank closed, for any reason, from 1929-1935. The sample contains all towns for which we have data. Location characteristics include log of county population, log of tax returns per county, the log of manufacturing facilities per capita, the log of farms per capita, the percent of a county that is urban, the percent of county population that is white, and whether the town is a reserve city. We also control for whether the bank is a national bank (column 1). Standard errors clustered at the state level are provided in parentheses. *** $p<0.01$, ** $p<0.05$, *$p<0.1$

Table 7: Instrumental Variables Regression of Postal Savings Availability on Bank Closure (1929-1935), By Bank Reserves

VARIABLES	(1) All Banks	(2) Bottom Half Of Reserves	(3) Top Half Of Reserves
Has Postal Savings	0.562***	0.738**	0.344
	(0.198)	(0.336)	(0.221)
Ln(Assets)	-0.0862***	-0.0980***	-0.686*
	(0.0311)	(0.0314)	(0.0393)
Cash/Deposits	-0.386**	-0.530	-0.105
	(0.186)	(0.468)	(0.192)
Loans/Assets	0.398***	0.305	0.494***
	(0.108)	(0.191)	(0.136)
(Profits+Capital)/Assets	-0.402	-0.589*	-0.233
	(0.303)	(0.341)	(0.319)
Profits/(Profits+Capital)	-0.350***	-0.368***	-0.387***
	(0.0703)	(0.107)	(0.010)
Observations	2,186	1,093	1,093
Location Characteristics	Y	Y	Y
State Fixed Effects	Y	Y	Y
Cragg-Donald Wald F Statistic	52.27	25.60	25.10

Note: Columns 1-3 of Panel A shows the results of an instrumental variables regression. The outcome variable is an indicator for whether a bank closed, for any reason, from 1929-1935. Column 2 is banks with reserve levels below the 25th percentile (12.49). Column 3 is all banks above the 75 percentile (24.58). All regressions include the following location controls: log of county population, log of tax returns per county, the log of manufacturing facilities per capita, the log of farms per capita, the percent of a county that is urban, the percent of county population that is white, and whether the bank is a national bank. State fixed effects are included. Standard errors clustered at the state level are provided in parentheses. *** $p<0.01$, ** $p<0.05$, * $p<0.1$

Table A1: Bank Closure and Establishment of Postal Depositories

|	(1)
	Bank Closed 1929-1935
VARIABLES	
Gained Postal Savings (1929-1935)	0.0864***
	(0.0146)
Ln(Assets)	-0.0869***
	(0.0131)
Cash/Deposits	-0.258***
	(0.0793)
Loans/Assets	0.200***
	(0.0639)
(Profits+Capital)/Assets	-0.220*
	(0.120)
Profits/(Profits+Capital)	-0.390***
	(0.0428)
Observations	8,682
Location Characteristics	Y
State Fixed Effects	Y
R-Squared	0.098

Note: Results are from a linear regression of all towns that did not have postal savings in 1928. The "Gained Postal Savings (1929-1935)" variable is a dummy equal to 1 if postal savings was established in a town between 1928 and 1935. All regressions include the following location controls: log of county population, log of tax returns per county, the log of manufacturing facilities per capita, the log of farms per capita, the percent of a county that is urban, the percent of county population that is white, and whether the town was a reserve city. State fixed effects are included. Standard errors clustered at the state level are provided in parentheses. *** $p<0.01$, ** $p<0.05$, * $p<0.1$

Table A2: Bank Closure and Alternative Definitions of Postal Savings Availability

VARIABLES	(1) Closed 1929-1935
Has Postal Savings (1928)	0.0335***
	(0.0119)
Lost Postal Savings (1913-1927)	-0.007
	(0.011)
Ln(Assets)	-0.0430***
	(0.0048)
Cash/Deposits	-0.00723***
	(0.0022)
Loans/Assets	0.260***
	(0.0267)
(Profits+Capital)/Assets	-0.220*
	(0.120)
Profits/(Profits+Capital)	-0.390***
	(0.0428)
Observations	16,796
Location Characteristics	Y
State Fixed Effects	Y
R-Squared	0.102

Note: Results are from a regression that is identical to Table 1, Column 1, but for the following includes a dummy variable equal to 1 if a town had postal savings at any point but lost it. Therefore, the coefficients for both "Has Postal Savings (1935)" and "Lost Postal Savings" measure the likelihood of closure against a third (omitted) category: towns that never has postal savings. All regressions include the following location controls: log of county population, log of tax returns per county, the log of manufacturing facilities per capita, the log of farms per capita, the percent of a county that is urban, the percent of county population that is white, and whether the town is a reserve city. State fixed effects are included. Standard errors clustered at the state level are provided in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Figure A1: Figure 2: Survival of Postal Savings Depositories (1913-1935), Additional Cutoffs
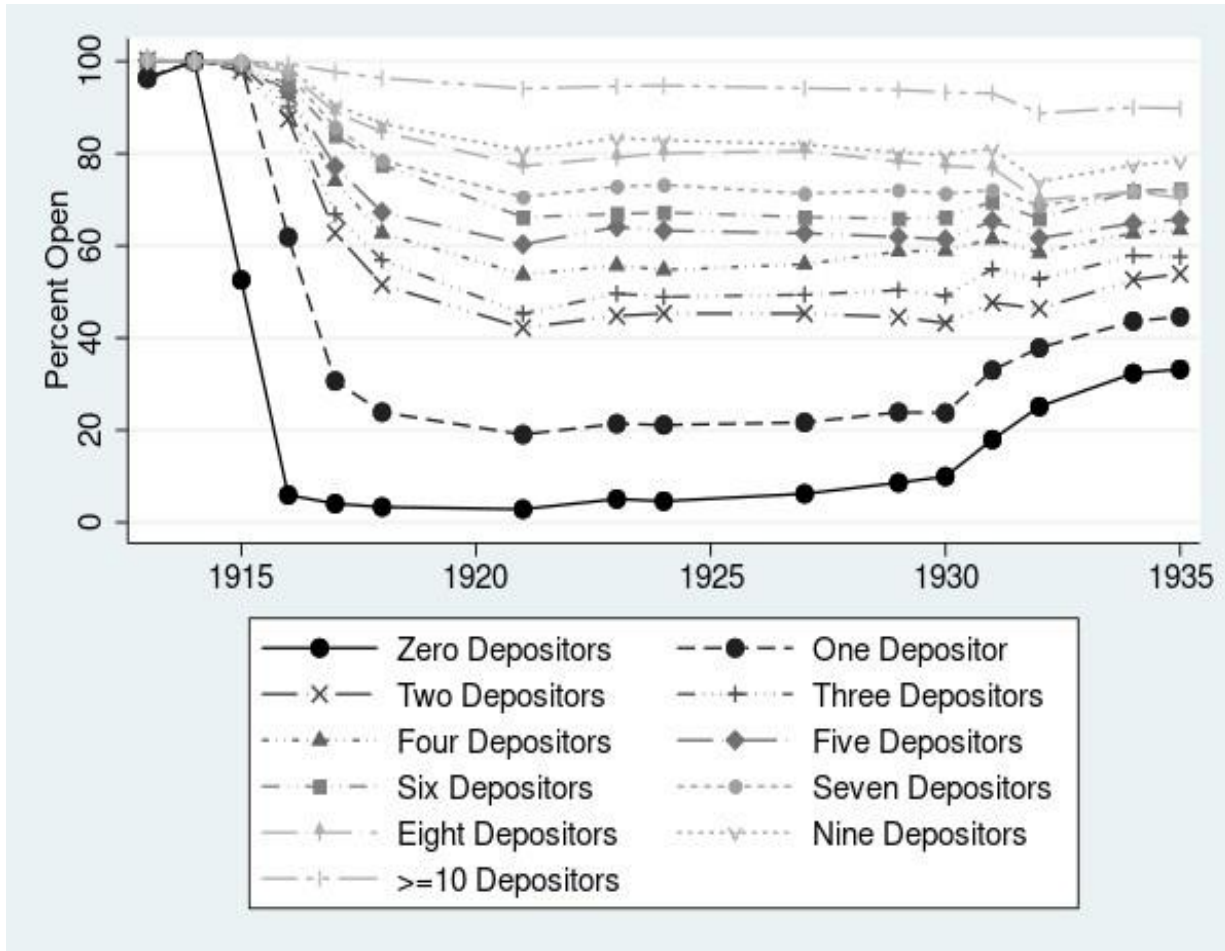
Note: Figure shows percent of post offices still accepting deposits in each year, broken up by the pre-1915 level of deposit activity.