Why Did FDR's Bank Holiday Succeed?

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Abstract

After a month-long run on American banks, Franklin Delano Roosevelt proclaimed a Bank Holiday beginning March 6, 1933 that shut down the banking system. When banks reopened on March 13, 1933, depositors stood in line to return their hoarded cash. This paper traces the remarkable turnaround in the public's confidence to the Emergency Banking Act, passed by Congress on March 9, 1933. Roosevelt used the emergency currency provisions of the Act to prod the Federal Reserve to create de facto deposit insurance in the reopened banks. The contemporary press confirms that the public recognized the implicit guarantee, and as a result, believed the President's words on March 12, 1933, that the reopened banks would be safe. The public responded by returning more than half of their hoarded cash to the banks within two weeks and by bidding up stock prices on March 15, 1933, the first trading day after the Bank Holiday ended, by the largest ever one-day percentage price increase. The Bank Holiday and the Emergency Banking Act of 1933 reestablished the integrity of the payments system and marked a turning point in expectations for economic recovery.

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On Sunday, March 5, 1933, after a month-long run on American banks, the newly-inaugurated President of the United States, Franklin Delano Roosevelt, proclaimed a four-day suspension of all banking transactions beginning the following day. The nation's stock exchanges also closed even though they were not mentioned in the President's executive order. On Thursday, March 9, Roosevelt failed to reopen the banks and extended the closure for an additional three days. Americans should have reacted in horror to the President's dictatorial decree, and to his failure to stick to his original schedule. Instead they waited to hear the President's plan.

Roosevelt's fifteen-minute radio address to the American people on Sunday evening, March 12, his first Fireside Chat, assured the public that only sound banks would be licensed to reopen by the U.S. Treasury. He said (New York Times, March 13, 1933, p.1 cont.): "I can assure you that it is safer to keep your money in a reopened bank than under the mattress." And much to everyone's relief, when banks reopened for business on March 13, 1933, depositors stood in line to return their hoarded cash to neighborhood banks. Within two weeks Americans had re-deposited more than half of the currency that they had squirreled away before the suspension. The stock market registered its approval as well. On March 15, 1933, the first day of trading after the extended closure, the New York Stock Exchange recorded the largest one-day percentage price increase ever.[1] With the benefit of hindsight, the Bank Holiday in March 1933 ended the bank runs that had plagued the Great Depression.

How did Roosevelt manage to accomplish in one week what Herbert Hoover failed to do in three years?

[1] See Siegel (1998, pp. 183).

Contemporary observers considered the Bank Holiday and the Fireside Chat a one-two punch that broke the back of the Great Depression. According to Beard and Smith (1940, p.78), "the sudden nationwide holiday performed the same function for the bank panic as may a slap in the face for a person gripped by unreasoning hysteria." Allen (1939, p. 111) observes that the bank reopening succeeded because "the people had been catapulted and persuaded by a president who seemed to believe in them and was giving them action. . . ." Alter (2006, p.269) confirms the importance of Roosevelt's communication skills by quoting Will Rogers on the President's description of the reopening: "He made everyone understand it, even the bankers."

Whatever the merits of Roosevelt's oratory, only the financially naive would believe that the government could examine thousands of banks in one week and identify those that should survive. According to Wigmore (1987, p.752), "The federal review procedure for reopening banks also had too many weaknesses to create much confidence, given the number of banks reopened, the speed with which they opened, and the lack of current information on them. There were no standards for judging which banks should reopen." Thus Temin and Wigmore (1990, p. 491) dismiss the importance of the Bank Holiday by saying: "The value of stocks . . . rose sharply from its trough in March – at the time of the Bank Holiday – to a peak in July. . . .This abrupt turnaround was hardly the result of the interregnum or the Bank Holiday itself. They contained bad news about the health of the economy. Only after Roosevelt's commitment to inflationary policies became clear during the Hundred Days did the value of stocks rise. The stock market rose and fell with the value of the dollar during 1933, illustrating dramatically the link between devaluation and expectations for the economy."

Temin and Wigmore ignore the March 15, 1933, stock price increase in their assessment of the Bank Holiday. They go further and state (1990, p. 488-9): "[F]or the first month the administration was absorbed with the Bank Holiday and preparing for action. Stock, bond, foreign exchange, and commodities markets *were quiet and little changed* [italics added].”

My evidence shows that the Bank Holiday that began on March 6, 1933, marked the end of the old regime and the Fireside Chat a week later inaugurated a new one. The Emergency Banking Act passed by Congress on March 9, 1933, combined with the Federal Reserve’s commitment to supply unlimited amounts of currency to reopened banks, created de facto deposit insurance, as in Diamond and Dybvig (1983, p. 417). I show that the public recognized this guarantee and, as a result, believed the President’s words on March 12, 1933, that the reopened banks would be safer than the proverbial ‘money under the mattress.’ Confirmation of the turnaround in expectations came in two parts: (1) The Dow-Jones industrial average rose by a statistically significant 15.34 percent on March 15, 1933, taking account of the two-week trading halt during the Bank Holiday; and (2) By the end of the month the public had returned to the banks two-thirds of the currency it had hoarded since the onset of the panic.

The Emergency Banking Act and the de facto inauguration of deposit insurance created a safety net for banks and produced a regime shift with instantaneous results, similar to Sargent’s (1986) description of “The Ends of Four Big Inflations.” This would come as no surprise to Friedman and Schwartz (1963, p. 434), who say that “Federal insurance of bank deposits was the most important structural change in the banking system to result from the 1933 panic, and … the structural change most conducive to monetary stability since state bank notes were taxed out of existence immediately after the Civil War.”[2] But Friedman and Schwartz (1963, pp. 421-422) simply recite the provisions of the Emergency Banking Act of 1933 and do not recognize the

[2]. The Banking Act of 1933, which included a provision for creating the Federal Deposit Insurance Corporation, was passed on June 13, 1933, and insurance (which was not retroactive) became effective on January 1, 1934. Roosevelt himself opposed deposit insurance legislation (Calomiris and White, p. 193) but I show below that this did not interfere with his commitment to the success of de facto depositor protection that began with the Emergency Banking Act.

implicit guarantee for deposits in the reopened banks. Meltzer (2003, p. 423) says that the Federal Reserve Bank of New York understood the need to guarantee deposits in reopened banks but fails to show that the public recognized this new policy, and acted accordingly. The evidence presented here explains how the Bank Holiday and the Emergency Banking Act of 1933 reestablished the integrity of the payments system and marked a turning point in expectations for economic recovery.

This paper is organized as follows. Section I describes the February 1933 crisis in the banking system that culminated in the formal suspension of all banking transactions when FDR proclaimed the nationwide Bank Holiday. Section 2 reviews the reasons for the suspension, and Section 3 presents the solution: the March 9 Emergency Banking Act. Special attention focuses on how the newly-authorized Federal Reserve Bank Notes resembled the Aldrich-Vreeland currency that had been used successfully to avert a panic during the financial crisis of August 1914. Evidence from the contemporary press confirms that the public understood the implicit federal guarantee for deposits of reopened banks. Section 4 shows that the public responded by re-depositing the currency they had withdrawn and by bidding up stock prices.

I. The Collapse

"The straw that broke the camel's back occurred in Detroit, Michigan" in February 1933, according to the then Acting Comptroller of the Currency Francis Awalt (1969, p. 349). Michigan Governor William A. Comstock declared a state-wide banking holiday on February 14, 1933, to prevent a collapse of the Union Guardian Trust Company of Detroit, a bank with close ties to Henry Ford. The story of the battle between Ford, Union Guardian's largest depositor, and Arthur Ballantine, Under Secretary of the Treasury, over how to save the bank from insolvency has been told many times (Kennedy [1973], Wigmore [1985] and Wicker [2002]). The failure of Ford and Ballantine to arrive at a mutually agreeable solution forced the Governor to suspend banking operations in the entire state. The fallout from that decision gave new meaning to the law of unintended consequences. Instead of preventing a panic, the Michigan bank holiday precipitated a nationwide rush into cash.

Michigan was not the first state to declare a bank holiday during the Great Depression. Nevada Lieutenant Governor Morley Griswold declared a twelve day holiday in the state beginning November 1, 1932 (New York Times, November 2, 1932, p. 1). But paralyzing financial services in Detroit carried far more weight than shutting down banks in Reno. The Washington Post (November 7, 1932, p. 3) reported that “gambling was the hardest hit business,” by the Nevada decree but then qualifies the dislocation by saying “Eastern divorce seekers were the luckiest [because] they had resources in their home cities upon which they called.”

The damage of the February 14, 1933 Michigan proclamation came from the contagion. According to Wicker (1996, p. 121), the Michigan bank holiday “spread fear and uncertainty quickly to the contiguous states of Ohio, Indiana, and Illinois.” The contemporary press suggests, however, that those states recognized the danger of imitating the Michigan example. On February 17, the office of Ohio Governor George White issued a statement saying (New York Times, February 18, 1933, p. 5): “There is no occasion for a proclamation by Governor White of a banking holiday in the state of Ohio.” On February 23, the New York Times reported (p. C31) that Indiana Governor Paul McNutt declared there will be “no bank moratorium in Indiana” in order to quiet “unwarranted reports from Chicago that there would be [one].”

Unlike Michigan's Midwestern neighbors, however, Maryland failed to hold the line. On February 24 Governor Albert Ritchie said (New York Times, February 24, 1933, p. 21): "I attended [t]he meeting of bankers this evening with the idea of doing whatever is best for the depositors. . . . I believe there is no justification for the withdrawals which have recently been taking place. But to protect the property and saving[s] of the people of the city [of Baltimore] and the State these large withdrawals should stop. It was the consensus of opinion that a bank holiday should be declared tomorrow."

The data confirm large increases in the demand for currency in the weeks following the Michigan moratorium. Table 1 shows weekly figures for currency in circulation for the first six months of 1933. For the six weeks ending February 8, 1933, currency outstanding was quite stable and averaged $5.36 billion. After February 8, currency held by the public rose steadily, reaching $7.25 billion in the week ending March 8, 1933. The $1.78 billion jump in currency held by the public between February 8 and March 8, an increase of more than 30 percent, confirms the hoarding of cash.[3] Almost all of that increase occurred after February 15.

The rush to cash during the weeks following the Michigan bank holiday triggered bank closures or deposit restrictions in every state even before FDR's proclamation of March 5, 1933 (see Wicker, 1996, p. 128). According to the New York Times (March 5, 1933, p. F24), "A bank holiday 'until further notice' was declared tonight [March 4] in Delaware, the last of the forty-eight states in which restrictions have been made." But there is disagreement over the precise number of *bank holidays* in force before Roosevelt's presidential decree. Friedman and Schwarz (1963, p. 325) write "By March 3, holidays in about half the states had been declared;" Meltzer

[3] The data are not seasonally adjusted, but currency in circulation for the corresponding weeks in each of the three previous years show a slight decline. For example, in 1932 currency circulation declined from $5.34 billion in the second week of February to $5.26 billion in the second week of March (Source: *Banking and Monetary Statistics*, pp.384-7, Board of Governors of the Federal Reserve System, Washington D.C.).

(2003, p. 382) writes "By inauguration day [March 4], thirty-five states had declared bank holidays;" and Alter (2006, p. 190) writes "By the early evening of Friday March 3, banks in thirty-two of forty-eight states were closed." Why is there such confusion?

To some extent the disagreement stems from the use of different sources or time periods, but only Wicker provides a reference for his discussion (the New York Times). The more likely source of confusion is that some states went to great lengths to avoid a de jure holiday. For example, the Chicago Tribune (March 5, 1933, p. A5) reported: "Indiana Governor Paul V. McNutt today informed state officials…[that] Indiana banks, under the new bank code law recently rushed through the state legislature, have the power to limit withdrawals to one-tenth of one percent. Therefore, no state-wide bank moratorium will be declared in Indiana."

A detailed examination of the Associated Press's list of banking restrictions by state (including the District of Columbia), as of the close of business, March 4, 1933, shows the following (New York Times, March 5, 1933, p. F24): Banks in 28 states are 'closed'; Banks in 10 states are 'some or mostly closed'; Banks in 11 states have deposits that are 'restricted to withdrawals of 5 (or some unspecified) percent'. The Associated Press characterized Indiana as: "About half [of the banks] restricted to 5 percent [withdrawals] indefinitely." If the term *bank holiday* means an unqualified shut down of banking transactions by state governments, then the Associated Press limits the number to twenty-eight.[4]

Franklin Delano Roosevelt obviously did not invent the bank holiday. So why is his March 5 proclamation credited with launching a process that was crucial to restoring confidence in America's banking system? Roosevelt's initiative turned a maze of state restrictions into a

[4] Although the Associated Press lists New York as 'Closed', the New York Times [March 5, 1933, p. 23] reports: "At least two banks in New York City did not avail themselves of the banking holiday proclaimed yesterday by Governor Lehman. They were the Sterling National Bank, 1410 Broadway and the National Bank of Far Rockaway."

uniform national policy. This was the key first step to resolving the banking crisis: It shifted the responsibility for the integrity of the payments system to the Federal government, where it belonged.

II. The Problem

Franklin Roosevelt's problem was how to reopen the banks without triggering a resumption of deposit withdrawals that led to the suspensions. The Bank Holiday was a more extensive form of bank suspension that had last occurred in the United States in 1907, under the national banking system. But Congress had established the Federal Reserve System in 1913 precisely to prevent banks from suspending the convertibility of deposits into currency. Friedman and Schwartz (1963, p. 330) compare the Bank Holiday with earlier restrictions by saying, "One would be hard put to . . .find a more dramatic example of how far the result of legislation can deviate from intention."

Why did the system fail in 1933?

Friedman and Schwartz (1963, p.330) admit that, even with the benefit of hindsight, "the answer is by no means clear." However, a number of points are worth considering.[5] First, the weakened capital position of the commercial banks made them vulnerable to even minor drains. Second, the public's demand for currency during February and March 1933 was exacerbated by a demand for gold.[6] Third, although the Federal Reserve Act provided for an elastic currency by allowing a Reserve Bank to discount eligible commercial paper and ship currency in the form of Federal Reserve Notes to a commercial bank, the Act also imposed a reserve requirement of 40

[5] See Meltzer (2003, pp. 381-389) and Friedman and Schwartz (1963, pp. 324-332).

[6] According to Wigmore (1987, p. 744), weekly data show a $1.8 billion increase in currency in circulation and a gold drain of $563 million from the Federal Reserve System. He also provides daily data showing a larger gold outflow from the Federal Reserve Bank of New York during the first few days of March.

percent gold backing for Federal Reserve Notes outstanding. Fourth, by March 3, 1933 the gold drain at the Federal Reserve Bank of New York reduced its gold reserve ratio to 24 percent. Meltzer (2003, p. 387) says that the Federal Reserve Board then suspended the gold reserve requirement but quotes the Governor of the Federal Reserve Bank of New York, George Harrison, saying (Meltzer 2003, p.386) that “he would not take the responsibility of running [the] bank with deficient reserves.” Perhaps Wicker (1996, p.145) sums up the situation best: “[Using] the pre-1914 remedy of suspension of cash payments can be explained quite easily. Bold and courageous leadership was absent. Neither the Fed nor the RFC (Reconstruction Finance Corporation) was willing to accept lender of last resort responsibilities.”

Fear and uncertainty as these events unfolded made the reopening process a precarious undertaking. According to Acting Comptroller of the Currency Francis Awalt (1969, p. 368), “No one knew how the public would react when the banks reopened. If they demanded their money they either had to have it or the reopening would be a failure.” To prevent a resumption of bank withdrawals the President pledged in his March 12 Fireside Chat that only sound banks would be reopened. Assuring people that they could get their money would stop a run, but why would the public think the government could identify credit worthy banks in less than a week? Where would the confidence come from?

III. The Emergency Banking Act of 1933

The Emergency Banking Act, passed by Congress on March 9, 1933, gave the President the ammunition needed to insure the safety of the reopened banks.[7] The key provision allowed the Federal Reserve Banks to issue emergency currency, similar to Aldrich-Vreeland currency issued in 1914. According to the New York Times (March 9, 1933, p. 2): “To many of the

[7] The text of the Act appears in its entirety in the New York Times, March 10, 1933, p. 2.

President's closest advisors the Aldrich-Vreeland Act, repealed when the Federal Reserve Act came into effect, provides the model scheme for the projected expansion of currency through Federal Reserve Notes."[8] But Titles I through IV of the Emergency Banking Act went much further, granting the President near dictatorial powers.

Title I of the Act approved the President's declaration of the Bank Holiday and allowed the President, during the period of emergency, to regulate all banking functions, including "any transactions in foreign exchange, transfers of credit between or payments by banking institutions as defined by the President, and export, hoarding, melting, or earmarking of gold or silver coin." Title II gave the Comptroller of the Currency the power to restrict the operations of a bank with impaired assets and to appoint a Conservator, who "shall take possession of the books, records, and assets of every description of such bank, and take such action as may be necessary to conserve the assets of such bank pending further disposition of its business." Title III allowed the Secretary of the Treasury to determine whether a bank needed additional funds to operate and "with the approval of the President request the Reconstruction Finance Corporation to subscribe to the preferred stock in such association, State bank or trust company, or to make loans secured by such stock as collateral." Title IV provided for the issuance of emergency currency by the Federal Reserve Banks, called Federal Reserve Bank Notes, backed either by "(A) any direct obligations of the United States or (B) any notes, drafts, bills of exchange, or bankers' acceptances, acquired under the provisions of this act." Federal Reserve Bank Notes would circulate alongside normal Federal Reserve Notes, even though they were not backed by gold,

[8] The emergency currency provision of Aldrich-Vreeland Act, passed in May 1908 to prevent a replay of the Panic of 1907, had been scheduled to expire by legislative design on June 30, 1914. The Federal Reserve Act, passed in December 1913, extended the expiration date for one year, until June 30, 1915, to provide protection against panics while the Federal Reserve System was organized. The extension allowed Treasury Secretary William McAdoo to invoke the Aldrich Vreeland Act to prevent a panic in August 1914 at the outbreak of the Great War (see Silber 2007b).

because the Act provided that the new notes “shall be receivable at par in all parts of the United States . . .and shall be redeemable in lawful money of the United States on presentation at the United States Treasury.”

Title I of the Emergency Banking Act conferred considerable power on the President in dealing with the crisis. The Administration did not shy away from using those powers. In his Fireside Chat on Sunday night, March 12, Roosevelt ordered banks to be opened sequentially (New York Times, March 13, 1933, p.1 cont.): “First in the Twelve Reserve Bank cities – those banks which on first examination by the Treasury have been already found to be all right . . . followed on Tuesday . . . by banks already found to be sound in cities where there are recognized clearing houses . . . [and] on Wednesday and succeeding days, banks in smaller places, . . . subject, of course to the government’s physical ability to complete its survey.” The Treasury issued emergency regulations designed to prevent runs on the reopened banks, including (New York Times, March 13, 1933, p.2): “No banking institution shall permit any withdrawal by any person when such institution, acting in good faith, shall deem that the withdrawal is intended for hoarding.”

Roosevelt recognized that the most important ingredient for a successful reopening was the restoration of confidence. He said (New York Times, March 13, 1933, p.1 cont.): “When the people find that they can get their money – that they can get it for all legitimate purposes – the phantom of fear will soon be laid. People will again be glad to have their money where it will be safely taken care of.” Friedman and Schwartz (1963, p. 440) confirm the role of confidence: “Panics arose out of or were greatly intensified by a loss of confidence in the ability of banks to convert deposits into currency.” But Roosevelt did not generate great confidence when he said the first banks to be reopened were those that “on first examination by the Treasury have been already found to be all right." Nor did regulations against hoarding assure people that the banks were sound; if anything the reverse is more likely. The key to creating confidence in the reopened banks rested with Titles III and IV of the Emergency Banking Act.

Title IV gave the Federal Reserve the flexibility to issue emergency currency, Federal Reserve Bank Notes, backed by any assets of a commercial bank. The contemporary press recognized the power of the emergency currency provision (New York Times (March 10, 1933, p. 3): "The new currency feature of the law is one of the most important of the many extraordinary powers given to this administration … which stem from the Aldrich-Vreeland Act . . . invoked in 1914 for the issuance of about $386,000,000 in emergency currency." The link to Aldrich-Vreeland currency, which succeeded in defusing the financial crisis at the outbreak of World War I, conferred credibility on the power of Title IV of the Emergency Banking Act of 1933.[9] The Wall Street Journal (March 10, 1933, p.1 cont.) said: ". . . Banks which are believed to be 100% sound would be reopened as soon as their condition could be checked . . . All banks so reopened, it was pointed out, could under Title 4 and under machinery already in existence obtain the cash resources necessary from the Federal Reserve banks."

Title IV of the Emergency Banking Act promised more than just the availability of cash to reopened banks. It also created the expectation that the government would guarantee depositors against loss. The New York Times wrote (March 13, 1933, p.1, cont.): "Some bankers who were here today . . . interpreted the emergency banking act as a measure under which the government practically guarantees, not officially but morally, the deposits in the banks which it

[9] See Silber (2007a) for a discussion of the 1914 financial crisis.

permits to reopen. This point of view was based on the fact that banks permitted to open are characterized as 100 per cent sound and assured of sufficient currency to meet all obligations."[10]

Title III of the Emergency Banking Act added to the public's perception of a guarantee, according to the March 13 New York Times article: "The privilege to be extended to banks to issue preferred stock to be taken over by the Reconstruction Finance Corporation when they are in need of funds for capital purposes or reorganization, is also pointed to as another feature of the governmental program which fits in with the theory that a virtual guarantee is extended to depositors." Two days earlier, a New York Times headline had announced (New York Times, March 11, 1933, p. 2): "Deposit Guarantee Seen in Bank Law," and attributed the view to "an interpretation of the measure . . . by some officials in one of the government departments it concerns."

The availability of capital funds through the Reconstruction Finance Corporation would certainly help a bank's balance sheet, but only the Federal Reserve could provide unlimited currency to banks to meet a run on deposits. Acting Comptroller of the Currency Awalt confirmed the implicit guarantee many years later, but also hinted at concern over Federal Reserve support (1969, p. 368): "It was felt that the various Federal Reserve Banks must back the reopened banks to the hilt, and that it was no time for any conservative head of a Federal Reserve Bank to exercise his conservatism, should demand be made for currency. We reasoned, therefore, that if the Federal Reserve agreed to a reopening of a particular bank, it would necessarily be forced to back it one hundred percent."

How could a conservative Federal Reserve throttle the guarantee?

[10] The wording of the New York Times article echoes the discussion in the (confidential) Minutes of the Board of Directors of the Federal Reserve Bank of New York (Minutes, March 10, 1933, p.172, Federal Reserve Bank of New York Archives): "Under this law, enacted as a part of the program for reopening the banks, the Federal Reserve Banks become in effect guarantors of the deposits of the reopened banks. While they are not legally bound there is a large moral responsibility."

A bank in need of cash could get the new Federal Reserve Bank Notes, according to Title IV of the Emergency Banking Act, by discounting with its regional Federal Reserve Bank "(A) any direct obligations of the United States or (B) any notes, drafts, bills of exchange, or bankers' acceptances, acquired under the provisions of this act." But an individual Federal Reserve Bank could refuse to accept a bank's assets as collateral if the assets were considered too risky. Central bankers always worry about credit risk. The Federal Reserve Banks may have been especially sensitive since they are private corporations owned by the commercial banks that are members of the System. Emanuel A. Goldenweiser, the Director of Research and Statistics at the Federal Reserve Board from 1926 though 1945, in a discussion entitled, "Tragic Interlude in March, 1933," said (1951, p. 165): "[T]he Federal Reserve Banks and their management were still under the spell of commercial banking practice and theory and were dominated by the concept of liquidity as protection to a bank. They were also concerned about protecting the liquidity and solvency of the Federal Reserve Banks themselves as custodians of the country's ultimate reserves."

An agreement to protect the Federal Reserve Banks against losses insured their cooperation in lending freely to banks in need of cash. According to Meltzer (2003, p.423n) "The Treasury wanted 100 percent of the deposits available and agreed to indemnify the reserve banks against losses." The promise to indemnify the Reserve Banks against losses came in the form of a telegram from Treasury Secretary Woodin to Governor George Harrison of the Federal Reserve Bank of New York, quoting President Roosevelt (Federal Reserve Bank of New York Archives, Central Files Unit, 017.1): "It is inevitable that some losses may be made by the Federal Reserve banks in loans to their member banks. The country appreciates, however, that the 12 regional Federal Reserve Banks are operating entirely under Federal Law and the recent

Emergency Bank Act greatly enlarges their powers to adapt their facilities to a national emergency. Therefore, there is definitely an obligation on the federal government to reimburse the 12 regional Federal Reserve Banks for losses which they may make on loans made under these emergency powers. I do not hesitate to assure you that I shall ask the Congress to indemnify any of the 12 Federal Reserve banks for such losses. I am confident that Congress will recognize its obligation to these Federal Banks should the occasion arise, and grant such request."[11]

Congress understood the role of emergency currency in guaranteeing bank deposits. The New York Times said (March 13, 1933, p. 1 cont.): "…the framing and adoption of the emergency baking law . . . went far to offset demands in Congress for a separate guarantee bill." Of course, the public did not know the details of the Federal Reserve's reluctance to lend, nor did it know of Roosevelt's indemnification scheme.[12] The key question is: When the banks reopened, did the public behave as though it believed that the President would use the powers of the Emergency Banking Act to guarantee deposits?

Section IV. The Evidence

The contemporary press described depositors anxious to redeposit their cash the very first day the banks reopened. On March 14, 1933, a front page headline in the Chicago Tribune read:

[11] The Honorable Ogden Mills, outgoing Treasury secretary, was invited to the Board of Directors meeting of the Federal Reserve Bank of New York to read the telegram and to brief the Directors on "recent discussions of the problems involved in reopening the banks of the country which have taken place in Washington , D.C." (Minutes, March 11, 1933, p. 179, Federal Reserve Bank of New York Archives). William Wooden, the incoming Treasury secretary, had asked Mills to stay on and help draft the Emergency Banking Act. Also see Alter (2006, pp. 228-230) and Meltzer (2003, pp. 421-427) for a discussion of the role Mills played.

[12] The Directors of the Federal Reserve Bank of New York (Minutes, March 12, 1933, p. 189, Federal Reserve Bank of New York Archives) were sufficiently worried about the riskiness of loans to reopened banks that they transmitted the following resolution to the Treasury secretary: "Pending the legal assumption of the responsibility of the government [to indemnify the Reserve Banks]. . . we believe that banks should be licensed to reopen only with our approval, as the principal burden of taking care of such banks as are reopened will be ours."

"City Recovers Confidence as 34 Banks Open." The front page of the New York Times carried similar news: "Rush to Put Money Back Shows Restored Faith as Holiday Ends." The *Times* article explains: "The public plainly showed that it recovered from the fear and hysteria which characterized the last few days before the banking holiday was proclaimed. It was obvious that the people had full confidence in the banks which received licenses to reopen from the Federal Reserve Bank…there was a general 'run' yesterday [March 13] to deposit or redeposit money . . . . Conditions in New York were duplicated in each of the other Federal Reserve cities throughout the country where full banking facilities were restored." The process continued the following day, according to the *Times* (March 15, 1933, p. 5): "With the reopening of the banks in clearing house centers . . . currency poured in from private hoards and from the tills of business houses to be deposited in the banks."

The success of the reopening had the somewhat anomalous result of making the emergency currency appear redundant. On March 15, a headline announced (New York Times, March 15, 1933, p. 5): "New Currency Put at $2,000,000,000: Bureau made first Delivery of Money 24 Hours after Receiving Order." The newspaper then concluded: "If this movement [of returning currency] keeps up, bankers remarked, only a comparatively small amount of the new Federal Reserve Bank Notes will be needed to supplement the existing supplies of regular currency." The public's behavior supports the old banker adage (Silber 2007a, p.128): "When they know they can get their money, they are not so eager to have it."

The data on currency in circulation in Table I support the descriptive comments in the press. Currency held by the public had increased by $1.78 billion in the four weeks ending March 8, 1933. The public returned two-thirds of the increase, $1.18 billion, by the end of the month.[13] This remarkable turnaround is all the more impressive considering that when the government's initial licensing program ended on April 12, 1933, a total of 4,215 banks, with deposits of nearly $4 billion, remained closed (Wicker, 1996, pp. 146-147).

The stock market provides a second assessment of the events from March 3, 1933, the last trading day before the Bank Holiday, to March 15, 1933, the day the New York Stock Exchange resumed trading. The Dow-Jones Industrial Average increased by a record 15.43 percent on March 15, 1933, the largest one-day percentage price increase ever recorded, according to Siegel (1998, p. 183). However, Siegel omits this day from his ranking of largest daily stock price increases, presumably because trading had been suspended for almost two calendar weeks. Temin and Wigmore (1990, p. 488) dismiss entirely the March 15 price increase by saying: "[F]or the first month the administration was absorbed with the Bank Holiday and . . . Stock, bond, foreign exchange, and commodities markets *were quiet and little changed* [italics added]." Is the 15.34 percent jump in the Dow-Jones Industrial Average on March 15, 1933, significant?

I use a t-test on the continuously compound return of 14.27 percent on March 15, 1933, to determine whether this increase is statistically significant. To get a measure of the normal variability of returns during this period I first calculate the daily standard deviation of returns (continuously compounded) on the Dow-Jones Industrial Average from January 4, 1932 through March 3, 1933. I then split the sample on November 8, 1932, the date of Roosevelt's election, and perform an F-test to determine whether the pre-election (January 4, 1932 through November

[13]The data are not seasonally adjusted, but the changes in currency in circulation for the corresponding weeks in each of the three previous years are small and show no pattern. In 1932 currency circulation declined from $5.26 billion in the second week of March to $5.15 billion in the last week of March. In 1931 currency in circulation rose from $4.27 billion to $4.33 billion and in 1930 currency in circulation rose from $4.21 billion to $4.23 billion (Source: *Banking and Monetary Statistics*, pp.384-7, Board of Governors of the Federal Reserve System, Washington D.C.).

7, 1932) daily standard deviation of 3.45% equals the post election (November 9, 1932 through March 3, 1933) daily standard deviation of 2.48%. The F-statistic equals 2.03, with 213 and 77 degrees of freedom, implying a p-value of .001. Thus I reject the hypothesis of equality for the pre- and post-election standard deviation of returns. I use the post-election standard deviation of 2.48% to form the t-statistic for the return of 14.27% between March 3, 1933, and March 15, 1933, allowing for eight regular trading days between the two dates.[14] The t-statistic has a value of 2.03, which is significant at conventional levels.[15]

Table II shows the same set of statistics for three other stock market indices: the S&P500 (which consisted of 90 stocks at that time); the CRSP equally weighted index; and the CRSP value weighted index. The t-statistics for the Bank Holiday returns using the CRSP indices allow for 10 trading days between the two dates because, unlike the Dow-Jones Industrial Average and the S&P500, the CRSP data include the abbreviated Saturday sessions.[16] All of the t-statistics are significant.

Contemporary America viewed the stock market's response to the Bank Holiday and the successful reopening of the banking system as signaling a turning point in expectations about the prospects for economic recovery. The day after the market reopened, the *New York Times* (March 16, 1933, p. 25) wrote: "The robust advance in stocks and bonds was interpreted – and correctly so – as Wall Street's mark of approval of the steps taken by the President and Congress in the interval to end the financial disorder." The *Wall Street Journal* (March 16, 1933, p. 6) added: "Reopening of the New York Stock Exchange on Wednesday free of price restrictions

[14] Daily data on the Dow-Jones Industrial Average (and the estimate of the 2.48 standard deviation) did not include the abbreviated Saturday trading sessions. The eight trading days between March 3 and March 15 excludes Saturdays.
[15] Recognizing that variance over non-trading days is lower than variance over days when trading takes place (see French and Roll [1986] and Lockwood and Linn [1990]) would increase the t-statistic.
[16] The reduced daily standard deviations for the CRSP indices compared with the S&P500 and the Dow-Jones are due, in part, to the lower standard deviation of returns on the abbreviated Saturday sessions compared with the rest of the week.

and the demonstration that took place there of returning popular confidence in the economic future of the United States make an important contribution to the struggle for economic recovery. . . . The emergency banking act lifted from security and commodity markets an enormous weight of potential liquidation. That statute and the related powers invoked by the Administration reversed the hoarding impulse; in consequence an important body of liquid capital has been released. And the *Chicago Tribune* waxed eloquent in its assessment (March 16, 1933, p. 1): "The zooming upward of prices on the reopened stock markets today is regarded as barometrical indication of the economic weather test that is settling in. Believing the bedrock bottom of the depression had been reached from which there was nowhere to go but up and that higher prices are in sight, thousands of investors and speculators rushed forth to get in on the ground floor. . . . The courage, determination, and resourcefulness of the new President have apparently taken the country by storm. The reopening of the banks with deposits everywhere exceeding withdrawals crowned with success the first action taken by the administration."[17]

V. Conclusion

Franklin Delano Roosevelt's Bank Holiday succeeded for a number of reasons: (1) It placed the responsibility for safeguarding the integrity of the payments system with the Federal government; (2) Congress passed the Emergency Banking Act and gave the President the power to restore confidence in the banking system by guaranteeing deposits; (3) The President did not hesitate to use those powers to end the crisis.

[17] The press cited a second factor buoying stock prices: Favorable congressional legislation giving Roosevelt the power to reduce veteran's benefits and federal salaries. According to the *Chicago Tribune* (March 16, 1933, p. 1): What the country is witnessing is a president doing swiftly and certainly what the overwhelming majority of the people demanded . . . No sooner had he ended the bank panic than Mr. Roosevelt began pushing through Congress the bill for a 500 million dollar reduction in the cost of the federal government and the bill to legalize and tax beer."

We can draw three main conclusions from this episode: (1) Crisis management requires bold and decisive action; (2) Rhetoric alone will not solve the problem; there must be a substantive component to restore normal function; (3) The Bank Holiday and the Emergency Banking Act of 1933 reestablished the integrity of the payments system and marked a turning point in expectations for economic recovery.

Table 1
Currency in Circulation: 1933
(in billions)

Jan	4	5.38
	11	5.30
	18	5.32
	25	5.32
Feb	1	5.37
	8	5.47
	15	5.56
	22	5.70
Mar	1	6.43
	8	7.25
	15	6.98
	22	6.32
	29	6.07
Apr	5	5.97
	12	5.86
	19	5.78
	26	5.71
May	3	5.67
	10	5.67
	17	5.57
	24	5.51
	31	5.53
June	7	5.48
	14	5.44
	21	5.41
	28	5.39
July	5	5.47
	12	5.38
	19	5.35
	26	5.31

Source: *Banking and Monetary Statistics*, p. 387.
Board of Governors of the Federal Reserve System,
Washington D.C. 1943.

Table II
Significance Tests for Stock Returns: March 3, 1933 to March 15, 1933
(All data are continuously compounded)

	(1) DJIA	(2) S&P 500	(3) CRSP (EW)	(4) CRSP (VW)
Return over Bank Holiday	14.27%	15.37%	18.48%	14.41%
Post-Election Stdv of Returns	2.48%	2.45%	1.81%	1.94%
t-statistic (with 8 trading days)	2.03	2.22	-	-
t-statistic (with 10 trading days)	-	-	3.23	2.35

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