

The Check is in the Mail: Correspondent Clearing and the Collapse of the Banking System, 1930 to 1933

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Weaknesses within the check-clearing system played a hitherto unrecognized role in the banking crises of the Great Depression. Correspondent check-clearing networks were vulnerable to counter-party cascades. Accounting conventions that overstated reserves available to corresponding institutions may have exacerbated the situation. The initial banking panic began when a correspondent network centered in Nashville collapsed, forcing over 100 institutions to suspend operations. As the contraction continued, additional correspondent systems imploded. The vulnerability of correspondent networks is one reason that banks that cleared via correspondents failed at higher rates than other institutions during the Great Depression.

During the Great Depression, banks failed in larger numbers than at any other time in United States history. Economists have long debated the reasons for the banking system's collapse. A traditional school of scholarship maintains that the underlying causes were withdrawals of deposits, illiquidity of assets, and the Federal Reserve's reluctance to act.¹ A revisionist school concludes that banks failed because the economy contracted and fundamental forces pushed banks into insolvency.²

These opposing views exist for many reasons. A principal reason is differences in data sources. Scholars in the traditional school analyze data aggregated at the national or regional level. These data reveal bank suspensions clustered in space and time, often coinciding with turning points in macroeconomic time-series such as indices of industrial production, the money multiplier, interest rates, and the deflation rate. Narrative sources from the 1930s characterize these clusters as banking

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¹ Friedman and Schwartz, *Monetary History*; and Wicker, *Banking Panics*.

² Temin, *Did Monetary Forces*; and Calomiris and Mason, "Fundamentals."

panics. Scholars in the revisionist school analyze data at lower levels of aggregation, such as the state or county level, or panels of microdata, such as samples of national banks, or panels of banks from within individual cities, states, or Federal Reserve districts.³ These different data sources provide different perspectives on various segments of the banking industry. None, however, provides a comprehensive view of the causes of failure for all types of banks operating in the United States throughout the contraction of the early 1930s.

This essay examines a new body of evidence that provides such a comprehensive perspective. The new source indicates the cause of suspension for all banks—including Federal Reserve members and non-members, national and state, incorporated and private—that suspended operations from the onset of the contraction in 1929 until the national banking holiday in March 1933. These data come from the archives of the Federal Reserve Board, whose Division of Bank Operations tracked changes in the status of all banks operating in the United States, analyzed the cause of each bank suspension, and recorded its conclusions and financial information for each bank on the St. 6386 series of forms. The complete series of St. 6386 forms survives in the National Archives of the United States.⁴

This new source indicates that the payment system played a critical, but as of yet unnoted, role in the propagation of banking panics during the Great Depression. At that time, three check-clearing systems operated in the United States. Clearing houses cleared checks for banks belonging to their organizations; the Federal Reserve cleared checks for members of its system; and, correspondents cleared checks for all other banks.

The initial banking crisis began during November 1930, when the Bank of Tennessee, a subsidiary of Caldwell and Company in Nashville, ceased operations. Its failure triggered a chain-reaction. The ensuing collapse of its correspondent network forced scores of banks to suspend operations. Aftershocks radiated from the locus of this counter-party cascade. Runs forced hundreds of banks to close their doors and induced other banks in the region to slow the conversion of deposits to currency through means short of suspension. Several smaller correspondent chains with no connection to Caldwell also collapsed around that time.

Later banking crises also involved collections of correspondent banks. In the spring of 1931, for example, correspondent groups cen-

³ White, "Reinterpretation," pioneered this line of research by examining a panel of data drawn from national banks. Calomiris and Mason, "Fundamentals," which is the most recent and comprehensive work, analyzes a panel of data for all Federal Reserve member banks.

⁴ For a detailed description of the Federal Reserve's archives and the St. 6386 database, see Richardson, "Records," "Bank Distress . . . New Evidence," "Bank Distress . . . Illiquidity-Insolvency Debate," and "Quarterly Data."

tered in Chicago suffered substantial declines in deposits and suspended operations after depleting their cash reserves. Overall, banks that cleared checks via correspondents failed at rates much higher than banks that cleared via other systems.

A comparison of the three check-clearing systems reveals reasons why correspondent networks collapsed like dominos at the onset of the banking crisis. Correspondent banks resembled central banks. Deposits in correspondents counted as a portion, often the preponderance, of a respondent's reserves. When a correspondent closed, these reserves disappeared, and the respondent had to suspend operations. If in turn, the respondent served as a correspondent to other institutions, then those second-tier respondents may have had to suspend operations as well.

A ubiquitous feature of predepression correspondent-clearing networks may have exacerbated the situation. To facilitate bookkeeping, correspondents immediately credited checks deposited by respondent banks. Respondents treated checks working their way through the correspondent-clearing system as entering their reserve accounts immediately upon deposit, or if the checks were deposited through the postal system, at the time the checks were handed to the postmaster. Checks traveling through the correspondent-clearing system usually traveled through the hands of at least two banks before being redeemed at the bank on which they were drawn. The reserves of banks using the correspondent-clearing system consisted, therefore, partially of checks in transit, and this float was magnified by a multiple depending upon time in transit and the number of banks through which checks passed.

Contemporary critics of the correspondent-clearing system called these reserves *fictitious*, because they consisted of bookkeeping entries on the balance sheets of banks, which were not fully backed by funds and lacked the liquidity normally associated with readily available reserves. Fictitious reserves peaked during the fall harvest season, when the flow of funds through correspondent networks to country banks and their agricultural clients peaked. The evidence suggests that the share of reserves that were fictitious rose rapidly during the 1920s and peaked in fall of 1930, immediately preceding the onset of banking panics.⁵

⁵ Note on terminology. Commentators on the twentieth-century correspondent banking system used the term "fictitious reserves" to describe reserves arising from crediting uncollected checks. This essay uses the term "fictitious reserves" in that sense. Commentators on the postbellum national banking system used the term "fictitious reserves" in a related but distinct sense. Under the national banking system, banks could count some deposits with other banks as reserves. However, the banks that held these reserve balances held only fractional reserves against them. Total reserves therefore exceeded cash reserves. Commentators labeled this excess of total over cash as "fictitious."

THE THREE CHECK-CLEARING SYSTEMS

At the onset of the Great Depression, three check-clearing systems operated in the United States.⁶ The first consisted of clearing houses. Banks belonged to these organizations cleared checks drawn on each other and settled reciprocal claims on a daily basis. Clearing houses also processed checks drawn on institutions outside the organization. Jointly processing external checks economized on labor, postage, and exchange charges (the fee that many banks charged for remitting payment for checks drawn on them not cashed over the counter). The sophistication of these “country clearing” arrangements varied from region to region. Boston’s clearing house operated the largest system. Almost all of the banks in New England participated in it.⁷ Clearing houses in Kansas City, Detroit, New York, and St. Louis operated smaller, but still substantial, country clearing systems.⁸

In addition to the primary function of facilitating check transactions, clearing houses helped members attain numerous collective goals, such as maintaining confidence in the strength of local banks. Bankers recognized that “no bank can be in an unsound position without hurt to the whole local banking community.”⁹ To detect instances of unsound banking, to restore confidence during unwarranted runs on individual institutions, and to affect remedies more quickly than state or national officials, some clearing houses established examination bureaus. These bureaus monitored the balance sheets of banks belonging to the organization, audited institutions periodically, and promptly checked into reports of irregularities. Threatening to expel weak banks from the organization enabled “the clearing house as a body to exercise such supervision of any weak bank as to amount to a virtual taking over of its management till it is again in sound condition.”¹⁰

Another common goal was the provision of liquidity, particularly during periods of panic, when depositors withdrew funds *en masse*,

⁶ Additional information about the evolution and operation of the check clearing systems can be found in Richardson, “Correspondent Clearing.”

⁷ Talbert, “Clearing,” pp. 204–06.

⁸ Young, “Enlargement.” See also Preston, “Federal Reserve,” p. 568.

⁹ Young, “Enlargement,” p. 608.

¹⁰ Young, “Enlargement,” p. 608. Note that some clearing house examination bureaus also monitored borrowers within their communities to detect duplications of borrowings by the same client at different banks and, to alleviate adverse selection among borrowers, by collecting detailed information on loan applicants and disseminating it to all institutions, ensuring that borrowers could not refuse to provide information or security to an individual institution by threatening to borrow elsewhere. Young, *Enlargement*, pp. 130–13, describes such a system but writes that “little has yet been said of the possibility of further development through such an office . . . with regard to the question of credit information.” I have found little additional information on the practice.

forcing banks to scramble for cash. In such circumstances, clearing houses eased the pressure on bank balance sheets by issuing clearing house certificates. These substitutes for currency circulated between banks and among their better customers, usually bigger businesses, alleviating the pressure to sell assets at depressed prices.¹¹ If all else failed, clearing houses coordinated temporary suspensions of payment, when all banks in a region ceased converting deposits into cash, until efforts to repair depositor's confidence yielded results, and banks were able to reopen.

At the end of 1929 clearing houses operated in 45 states and the District of Columbia, as indicated by Table 1. Each day, the 349 clearing houses processed transactions totaling billions of dollars.¹² Of the 3,805 banks located in cities with clearing houses, 2,186 (57.5 percent) belonged to the clearing association.

The Federal Reserve operated the second check-clearing system. Federal Reserve member banks forwarded checks to the nearest Federal Reserve check-processing facility, which cleared checks drawn on member banks within its district and forwarded checks drawn on banks in other districts to the pertinent processing center. Banks that belonged both to the Federal Reserve and to a clearing house employed both clearing systems. Regulations required Federal Reserve members to process local transactions through the clearing house and out-of-town checks through the Federal Reserve System. Clearing house members often settled daily transaction balances by transfers on the books of the Federal Reserve, by telephoning or telegraphing the debits and credits to the Federal Reserve at the end of each business day.¹³

The Federal Reserve cleared checks drawn on nonmember state banks using procedures similar to those which clearing houses used to clear items drawn on country banks. The Federal Reserve shipped batches of checks to banks on which they were drawn, either via private messenger or the postal services, and awaited the return of funds (usually in the form of a draft drawn on an account of a Federal Reserve member or a money center bank). The Federal Reserve did not immediately credit out-of-town checks to the accounts of banks that deposited them. The Federal Reserve imposed a waiting period whose length was based on the typical length of time that it took for a check drawn on a type of bank in a particular location to remit funds. The waiting periods lasted up to eight business days depending on the distance involved and

¹¹ Talbert, "Clearing," p. 195.

¹² Andrews, "Operation," pp. 587–88.

¹³ Andrews, "Operation," p. 595.

TABLE 1
CLEARING HOUSES, FEDERAL RESERVE FACILITIES, AND RESERVE CITIES BY
STATE, 1930

	FR Banks	FR Branches	Central Reserve Cities	Reserve Cities	Clearing Houses	Banks in Clearing Houses	Banks in CH Cities		FR Banks	FR Branches	Central Reserve Cities	Reserve Cities	Clearing Houses	Banks in Clearing Houses	Banks in CH Cities	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)		(1)	(2)	(3)	(4)	(5)	(6)	(7)	
Alabama		1		1	4	17	37	New Hampshire						1	4	13
Arizona					2	9	12	New Jersey						8	66	100
Arkansas		1		1	3	16	21	New York	1	1	1	1	11	85	328	
California	1	1		3	24	111	202	North Carolina			1	1	9	35	46	
Colorado		1		2	3	22	31	North Dakota						5	15	21
Connecticut					1	30	61	Ohio	1	1		4	17	107	168	
Delaware					1	8	16	Oklahoma			1	2	7	29	50	
Florida		1		1	7	28	63	Oregon			1	1	3	16	39	
Georgia	1			2	13	41	75	Pennsylvania	1	1		2	34	243	419	
Idaho					3	6	9	Rhode Island						1	9	16
Illinois	1		1	1	15	214	321	South Carolina						9	32	47
Indiana				1	14	92	165	South Dakota						4	13	19
Iowa				4	13	71	97	Tennessee			2	2	5	30	58	
Kansas				3	11	91	106	Texas	1	3		7	16	81	130	
Kentucky		1		1	5	27	48	Utah			1	2	3	15	24	
Louisiana		1		1	1	9	13	Virginia	1			1	5	27	53	
Maine					2	12	15	Wash., D.C.				1	1	37	44	
Maryland					3	30	64	Washington			2			6	26	80
Mass.	1			1	8	56	134	West Virginia						2	18	23
Michigan		1		2	12	56	111	Wisconsin				1	11	96	117	
Minnesota	1			2	11	89	123	Wyoming						2	5	6
Mississippi					7	19	27									
Missouri	2			3	12	106	185									
Montana		1		1	3	11	12									
Nebraska		1		2	6	26	56	United States	12	24	2	57	349	2,186	3,805	

Notes: Column (1) indicates the number of Federal Reserve District Banks in the state. Column (2) indicates the number of Federal Reserve Branch Banks. Column (5) indicates the number of cities with clearing houses. Column (6) indicates the number of banks belonging to clearing houses. Column (7) indicates the number of banks located in cities containing clearing houses.

Source: Rand McNally, *Rand McNally Bankers' Directory*, July 1930.

the type of bank on which the draft was drawn. Clearing houses imposed similar waiting times on outside checks.¹⁴

The third system for clearing checks was correspondent banking. The typical situation involved a bank outside a reserve city (called a country bank) that deposited funds in a bank in a reserve city (called a city bank) and received services in return. The bank making the deposit was referred to as the respondent. The bank providing the services was called the correspondent. When a country bank received out-of-town checks from depositors, rather than mailing the checks directly to the banks on which they were drawn, the country bank deposited the checks in its city correspondent. The correspondent then cleared the checks through the most convenient method, either through a clearing house, through the Federal Reserve System, or by directly contacting the institution on which the checks were drawn. Country banks found the services of city correspondents economical because it enabled them to clear all of their checks by making a daily deposit via the United States postal service, rather than employing a staff of clerks to handle the correspondence needed to send each check directly to the bank on which it was drawn. Correspondent clearing also enabled country banks to avoid exchange charges.

In addition to cashing checks, correspondents offered respondents an array of financial services.¹⁵ Correspondents supplied coins and currency, conducted wire transfers, and facilitated investments in stocks and bonds. One of the most important services that correspondents offered was a line of credit. Correspondents monitored the financial status of respondents, enabling them to respond to respondents' requests for credit more quickly than could any other institution.

On the eve of the Great Depression, correspondent networks formed a complex web of interbank relationships anchored by banks in large commercial centers. A country bank often had a correspondent located in a nearby town, which was a member of the Federal Reserve, and therefore, could conveniently supply it with cash and clear many of its checks. A country bank also often possessed at least one correspondent in a financial center, where it held the bulk of its banker's balances, which usually comprised a substantial share of its financial reserves.

Country banks employed the services of correspondents because they provided greater benefits at lower costs than the alternatives of operating in isolation or joining the Federal Reserve System. The correspon-

¹⁴ Each issue of the *Rand McNally Bankers' Directory* reports the time schedule for crediting deposits for each Federal Reserve District.

¹⁵ *Rand McNally Bankers Directory* reveals the services provided by the principal correspondent banks.

dent banking system, however, had weaknesses. One was the potential for a chain reaction. Deposits in correspondents counted as a portion, often substantial, of a respondent's reserves. When a correspondent closed, its respondents' reserves disappeared, placing pressure on other sources of reserves, such as vault cash and liquid assets. Thus, the closure of a large correspondent could force its respondents to suspend operations. Another weakness arose from the competing needs of correspondents and respondents. During panics, both needed cash, but correspondents could slow respondents' withdrawals by invoking contractual clauses limiting amounts that could be withdrawn each day, by requiring advanced notice of withdrawals, and by slowing the processing of withdrawal requests. Correspondents could also refuse requests for credit, and in extreme situations, call in loans. Thus during panics, when correspondents faced demands on many fronts, the deposits that they held lacked the liquidity normally associated with bank reserves.

Although the closure of a large correspondent could precipitate suspensions among respondent banks, an accounting convention may have made the depression era correspondent-clearing system particularly susceptible to panics. The seventh edition of a popular banker's manual described the arrangement in these terms.

The country banker uses his reserve agent both as reserve agent and collecting agent, depositing his items both for credit and collection, the items so sent . . . becoming part of his lawful reserve. . . . As soon as the letter dispatched the country banker, therefore, regards the amount as added to his balance. . . . In the aggregate the total [of these reserve balances] is enormous.¹⁶

In other words, a country (a.k.a. respondent) bank considered checks mailed to its correspondent as a portion of its financial reserves and immediately indicated so on its balance sheet. The correspondent bank itself carried the float. Academic and professional writings from the era warned of dangers inherent in this practice.

It has long been recognized that the chief defense of the plan was its convenience. A country bank in this way knew how its reserve account stood. No checks were charged until the country bank remitted, and checks sent to the city correspondent were counted as available reserve as soon as put into the mail. In this way a fictitious reserve was created. A check in the mail for several days might later be returned for want of funds. All of this time the various banks that had handled it would count as reserve these unavailable funds.¹⁷

¹⁶ Kniffin, "Practical Work," p. 312.

¹⁷ Preston, "Federal Reserve," p. 567.

Yet, regulatory authorities in most states approved of this long-standing practice because its convenience seemed to offset potential disadvantages, such as allowing customers to write checks against uncollected funds. Moreover, “rural states adopted liberal bank incorporation laws that reduced minimum capital requirements to a fraction of the federal threshold and so spurred the formation of state-chartered banks in smaller cities and towns.”¹⁸

This common practice linked correspondent clearing and bank reserves in a dangerous manner: Reserves in the correspondent system were inflated by a multiple of the volume of checks in transit. Each check in transit was counted as part of the reserve of every bank through which it passed, until the check was redeemed, and the funds flowed backwards through the system, and the cycle unwound.

Seasonal flows of funds from crop-growing regions exacerbated the situation. Agricultural states possessed large numbers of small rural banks that relied on correspondents to clear checks. Transactions peaked during the harvest and planting seasons, when it would not be unusual for an institution in a small town to process checks equal to its required reserves within each week. If those checks took a week to clear through correspondents (also a typical period), then the bank’s possessed no actual reserves, because the “float” exceeded the “reserves” that they carried on their books.

For these reasons, the connection between clearing and reserves placed the correspondent system in a perilous position. A large portion of the reserves of the correspondent system consisted of bankers’ balances. Much of those balances consisted of checks in transit. A substantial share of the reserves of the correspondent system, therefore, consisted of fictitious reserves equal to a multiple of the volume of checks in transit. These reserves appeared to expand (but in reality did not change) whenever the volume of checks in transit increased. An event, such as a banking panic, that forced banks to convert reserves into cash, would reveal that the much of the reserves in any correspondent chain consisted of fictitious figures rather than real resources.

Precise data on the quantity of fictitious reserves do not exist, but extant sources yield closely related statistics. One is the ratio of checks in transit to bankers’ balances for state commercial banks. Figure 1 displays the ratio for 1 July of each year from 1913 to 1940. The ratio peaked in 1930, when float approached 60 percent of bankers’ balances. This peak was nearly twice the proportion prevailing during the

¹⁸ James and Weiman, “Drafts,” p. 8.

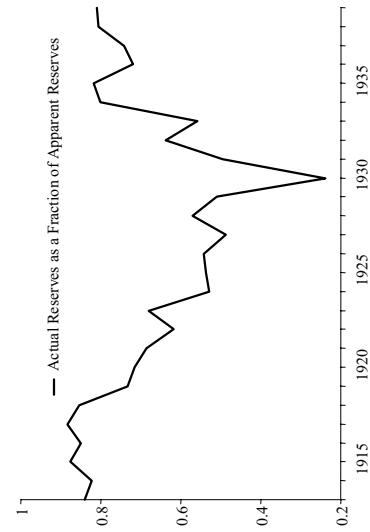


FIGURE 2: ACTUAL RESERVES AS A FRACTION OF APPARENT RESERVES

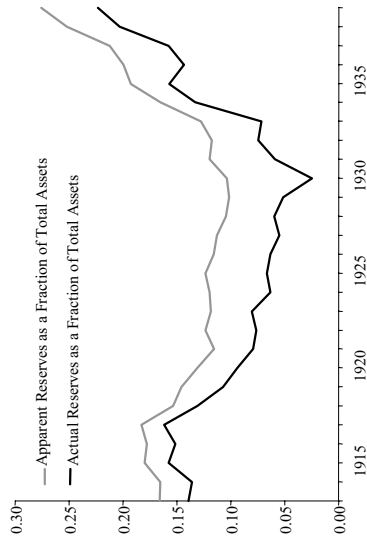


FIGURE 4: ACTUAL AND APPARENT RESERVES RELATIVE TO TOTAL ASSETS

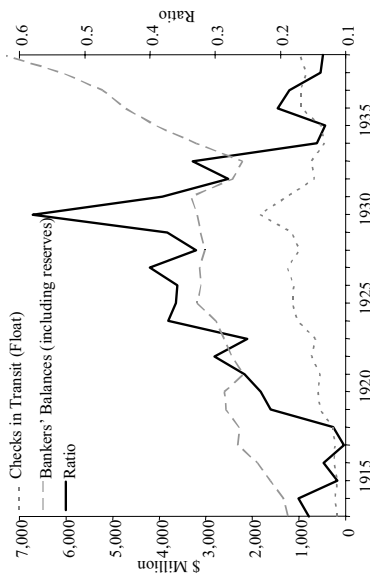


FIGURE 1: CHECKS IN TRANSIT AND BANKERS' BALANCES, 1913-1939

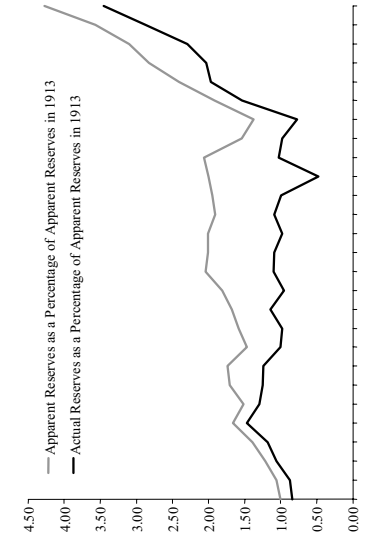


FIGURE 3: ACTUAL AND APPARENT RESERVES OVER TIME

Notes: These series were constructed using data from 30 June of each year or the nearest available date. Apparent reserves equal “currency and coin” plus “bankers’ balances (including reserves).” Actual reserves equal apparent reserves minus 1.5 times “cash items in the process of collection.”

Sources for Figures 1 to 4: Board of Governors, *All Bank Statistics*, table A-3, p. 43, 1959.

preceding decade. The peak was more than four times the proportion prevailing following the trough of the contraction.

The ratio can be used to estimate levels of apparent, actual, and fictitious reserves. The estimation requires knowledge of the relationship between checks in transit and fictitious reserves. That relationship depended upon the speed at which checks passed through the correspondent system and the number of corresponding banks that simultaneously counted checks as reserves on their balance sheets. Those parameters remain unobserved. Safe assumptions, however, facilitate a reasonable estimate: fictitious reserves amounted to approximately 150 percent of checks in transit from banks that cleared via correspondents.¹⁹ In other words, the aggregate funds actually available as reserves to respondent banks, denoted A , would have been $A = C + B - (1.5) * T$, where C equaled respondents' reserves of coin and currency. B equaled bankers' balances. T was the quantity of checks in transit.

This formula yields estimates of apparent ($C + B$), actual (A), and fictitious ($1.5 * T$) reserves. Figure 2 plots the ratio of actual to apparent reserves on June 30 of each year from 1913 through 1939. The data cover all commercial banks, including those that cleared via correspondents, clearing houses, and the Federal Reserve. The inclusion of data on banks that cleared clearing houses and the Federal Reserve biases the estimate upward. This bias implies that for typical country banks, the ratio of actual to apparent reserves was lower than the figure suggests. The figure indicates that the share of actual reserves fell (and the share of fictitious reserves rose) during the 1920s, as the volume of check transactions increased, and checks in the process of collection became an ever larger entry on banks' balance sheets. For example, on 30 June 1913, state commercial banks listed a total of \$195,000,000 of checks in the process of collection. Seventeen years later, on 30 June 1930, state commercial banks listed a total of \$1,851,000,000 checks in the process of collection.²⁰ At the same time, reserves of currency and coin for state commercial banks declined. On 30 June 1913 the vaults of state commercial banks contained \$580,000,000 in currency and coins, nearly three times the quantity of checks in the process of collection. On 30 June 1930 the vaults of state commercial banks contained \$459,000,000 in currency and coins, less than one-third of the quantity of checks in

¹⁹ The assumption are (i) the volume of checks in transit was constant; (ii) the correspondent networks for the states for which I have comprehensive data (New York and Mississippi) were representative of correspondent networks throughout the nation; (iii) all banks routed all checks through the system via the most direct route to a correspondent that belonged either to the New York Clearing House or the Federal Reserve System; and (iv) funds returned via drafts at the same rate that checks moved through the system.

²⁰ Board of Governors, *All Bank Statistics*, table A-4, p. 43.

the process of collection.²¹ In other words, between the founding of the Fed in 1913 and the onset of banking panics in 1930, the share of total assets that state commercial banks held as cash declined from 5.3 percent to 1.3 percent of total assets, while the share of total assets comprised of checks in the process of collection rose from 1.7 percent to 5.2 percent.²²

Figure 3 examines the implications of these patterns by plotting apparent and actual reserves on 30 June of each year as a fraction of apparent reserves held by banks in 1913. The figure illuminates an important point. During the 17 years following the founding of the Federal Reserve, apparent reserves doubled, while actual reserves fell by half.

Figure 4 reinforces this message by plotting apparent and actual reserves as a function of total assets. The figure shows that in 1913, actual reserves amounted to 14 percent of total assets, and in 1917, actual reserves peaked at 16 percent of total assets. Actual reserves declined steadily thereafter, as banks substituted checks in collection for cash in the vault. When the banking panics began, actual reserves amounted to roughly 3 percent of all assets. Note that apparent reserves also fell during the Roaring '20s, as banks worried less about liquidity and more about profits.

SOURCES OF DATA

Where does this evidence come from? Information about the three payment systems comes from the professional and academic literature of the era, information available in bankers' handbooks and manuals, and contemporary sources widely available at the time. For example, data on clearing houses, reserve cities, reserve requirements, and correspondent linkages comes from *Rand McNally's Bankers Directory*. Data on banks' balance sheets come from the compendium *All Bank Statistics*.²³

The remainder of this essay is based on a new and unique source. From 1929 through 1933 the Federal Reserve Board's Division of Bank Operations recorded information about changes in a bank's status on three forms. *Form St. 6386a* reported bank consolidations. *Form St. 6386b* reported bank suspensions. *Form St. 6386c* reported all other bank changes. These forms provide uniform and comprehensive information about changes of status for all banks operating in the United States—national and state, member and nonmember, public and private.

²¹ Board of Governors, *All Bank Statistics*, table A-4, p. 43.

²² Board of Governors, *All Bank Statistics*, table A-4, p. 43.

²³ Board of Governors, *All Bank Statistics*.

The complete series of forms survives in the National Archives of the United States.²⁴

As part of its ongoing data collecting endeavors, the Federal Reserve Board developed a lexicon for classifying changes in bank status and the causes of bank suspensions. In this lexicon, a *suspension* was a bank that closed its doors to depositors and ceased conducting normal banking business for at least one business day. Some, but not all, suspended banks reopened for business. A *liquidation* was a permanent suspension. A liquidating bank closed its doors to the public, surrendered its charter, and repaid depositors, usually under the auspices of a court appointed officer known as a receiver. A *voluntary liquidation* was a category of closure in which banks ceased operations and rapidly arranged to repay depositors the full value of their deposits. Voluntary liquidations did not require the services of receivers and were not classified as suspensions. A *consolidation* (or merger) was the corporate union of two or more banks into one bank that continued operations as a single business entity and under a single charter. The categories of bank distress were typically construed to be temporary suspensions, terminal suspensions (i.e., liquidations), voluntary liquidations, and consolidations due to financial difficulties.

The Federal Reserve attributed most bank suspensions to one of five common causes. The first was *slow, doubtful, or worthless paper*. The term *worthless paper* indicated an asset with little or no value. The term *doubtful paper* meant an asset unlikely to yield book value. The term *slow paper* meant an asset likely to yield full value in time, but whose repayment lagged or which could not be converted to full cash value at short notice. The second common cause of suspension was *heavy withdrawals*, the typical example being a bank run. The third was *failure of a banking correspondent*. Correspondents were banks with ongoing relationships facilitated by deposits of funds. A typical example is a county bank (the respondent) that kept its reserve deposits within and cleared its checks through a national bank in a reserve city (the correspondent). The fourth common cause was *mismanagement*. The fifth was *defalcation*, a monetary deficiency in the accounts of a bank due to fraud or breach of trust.²⁵

²⁴ The forms may be found in the National Archives and Record Administration [hereafter NARA], Record Group 82, Federal Reserve Central Subject File, file number 434.-1, "Bank Changes 1921–1954 Districts 1929–1954 - Consolidations, Suspensions and Organizations-St. 6386 a,b,c, (By States) 1930–1933" [hereafter Bank Changes]. The forms are filed alphabetically by state, name of town or city, and name of bank. Multiple entries for individual banks appear in chronological order.

²⁵ Richardson, "Bank Distress . . . New Evidence" and "Quarterly Data," discuss the construction and quality of these classifications.

When determining the causes of failures, the Federal Reserve Board sought to gather information about suspensions from the man on the spot who knew the facts of the issue at hand. The Board gathered information from examiners, receivers, correspondents, state banking departments, court officers, the bank's own management, and local and national publications. These sources, now no longer extant, provided the Federal Reserve Board with an array of information, now unavailable to economic researchers, such as the health of a bank's assets on the date of suspension, the deposits lost by the bank in the period preceding suspension, the lawsuits (or criminal charges) pending against bank management, and the links that the failed bank had to other financial institutions. Federal Reserve agents at that time could determine whether a bank experienced a run, failed to maintain cash flow, or feared impending insolvency; whether a bank's correspondent(s) closed; or whether a bank's management embezzled money. Modern scholars have difficulty detecting these phenomena in the extant evidence. Phenomena such as correspondent closures and bank runs remain unobservable.

The data demonstrate that for the contraction as a whole, asset problems were the primary cause of about half of all bank liquidations (i.e., terminal suspensions) and a contributing cause of another one-quarter. The share of liquidations due primarily to problems on the asset side of the balance sheet fell until the summer of 1931, rose in 1932, and fell again in 1933. The share of liquidations due primarily to withdrawals varied in the opposite chronological pattern. The share rose during the second half of 1930 and fell during the later half of 1931.²⁶

For temporary suspensions, the pattern was different. Temporary suspensions typically occurred when banks lacked enough cash on hand to satisfy depositors' demands. Heavy withdrawals were the primary cause of more than a half of all temporary suspensions. Temporary suspensions due to bank runs and heavy withdrawals rose during 1930 (particularly during the last three months) and peaked in 1931. The closure of counterparties caused a sixth of all temporary suspensions. The share of temporary suspensions due to the closure of correspondents peaked during the fall of 1930.²⁷

As this essay focuses on suspensions due to the closure of correspondents, it is worth discussing the nature of these events and how Federal Reserve agents determined them to be the cause of a suspension. The

²⁶ For additional information, see Richardson, "Records," "Bank Distress . . . New Evidence," "Bank Distress . . . Illiquidity-Insolvency Debate," and "Quarterly Data"; and Richardson and Troost; "Monetary Intervention."

²⁷ For additional information, see Richardson, "Records," "Bank Distress . . . New Evidence," "Bank Distress . . . Illiquidity-Insolvency Debate," and "Quarterly Data"; and Richardson and Troost; "Monetary Intervention."

typical case involved a respondent bank that received notice that its correspondent had suspended operations. Respondents located near their correspondent usually received these notices via messengers. Respondents located far from their correspondents usually received these notices via telegram. The respondent's manager ordered the staff to close the bank's doors and summoned the board of directors. The directors met and voted to keep the doors closed on the following morning. The Federal Reserve classified events of this type, where a respondent bank suspended operations immediately after the receipt of information about the closure of a correspondent, as a suspension due to the closure of correspondent. Federal Reserve agents also classified as a suspension due to the closure of a correspondent a bank that closed soon (for example, several days) after learning of its correspondent's closure, if no other factors appeared to precipitate its suspension.²⁸

Related events received different classifications. For example, Federal Reserve agents classified as a suspension due to heavy withdrawals a bank whose correspondent closed, but which remained in operation for several days thereafter, during which depositors withdrew sums so substantial that the bank had to suspend operations. In such cases, comments written by the Federal Reserve agents often attributed the run on the bank to news of the correspondent's closure.²⁹

I emphasize that I make no judgments about the reasons why particular banks failed. Those judgments were made by contemporary experts possessing far more information about each event than is available to scholars today. This essay merely reports the experts' conclusions.

CORRESPONDENT NETWORKS AND THE INITIAL PANIC OF THE DEPRESSION

The correlation between suspensions and the closure of correspondents was particularly pronounced during the initial banking panic of the depression. Figure 5 plots the number of suspensions each week due to the closure of correspondents (and for sake of comparison also plots total changes due to financial distress). The typical week witnessed few,

²⁸ This note indicates the prevalence of the archetypical case. During the fall of 1930, 61 percent of the banks that suspended operations due to the loss of correspondent linkages did so on the same day that their correspondent closed. Twenty-three percent suspended operations from one to three days later. Sixteen percent suspended operations from four to seven days later. Seven percent suspended operations from one week to one month later. Only one bank suspended operations more than a month later.

²⁹ See for example NARA, Bank Changes, American Exchange Trust Company, Little Rock, AR, 17 November 1930, or NARA, Bank Changes, National Bank of Kentucky, Louisville, KY, 17 November 1930.

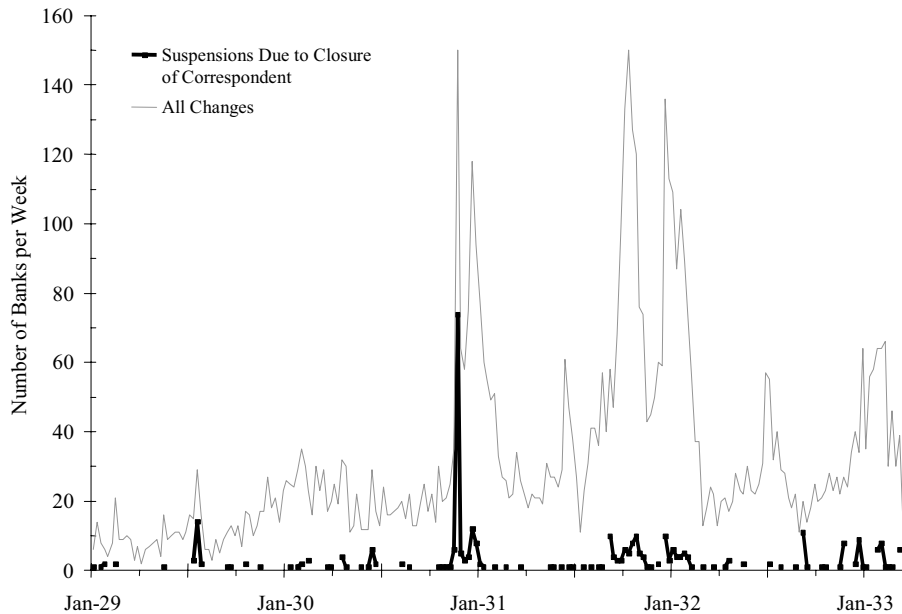


FIGURE 5
SUSPENSIONS DUE TO CLOSURES OF CORRESPONDENTS, JANUARY 1929
THROUGH MARCH 1933

Definitions: The series *All Changes* indicates for each week the total number of bank changes due to financial distress for all reasons. The total is the sum of terminal suspensions, temporary suspensions, voluntary liquidations, and consolidations due to financial distress. The series *Suspensions Due to Closure of Correspondent* indicates for each week the number of banks for which the principal cause of suspension was the closure of a correspondent.

Note: Figures for 1933 include only changes occurring in January through March except those which occurred to institutions closed by government proclamation of banking moratoria or holidays.

Sources: Richardson, "Bank Distress," p. 36. National Archives and Record Administration, Record Group 82, Federal Reserve Central Subject File, file number 434.-1, "Bank Changes 1921-1954 Districts 1929-1954 - Consolidations, Suspensions and Organizations-St. 6386 a,b,c, (By States) 1930-1933."

if any, suspensions from correspondents. The weekly mode and median were zero. The weekly number rose during July of 1929, when a Mediterranean fruit fly epidemic produced a banking panic in Florida, and the suspension of banks in Tampa, which served as the principal correspondents for banks in central Florida, forced the banks to suspend operations throughout the region, but remained near zero until November 1930, when it spiked sharply upwards.

In a two week period, more than 120 banks suspended operations due to the closure of correspondents. The event is an obvious outlier. Never before or since have so many financial institutions fallen in a counterparty cascade. It does not seem surprising that this event, the worst

chain reaction in United States financial history, marked the onset of the worst period of bank distress and most catastrophic financial contraction in United States financial history. In the immediate aftermath, bank runs radiated from the locus of the counterparty cascade, forcing hundreds of banks to close their doors to depositors.

The archival evidence enables us to describe this banking crisis in detail. Before mid-October, the pattern of bank suspensions resembled the pattern of failures throughout the 1920s. Banks failed at a steady rate. The principal cause was problems with asset quality. The pattern changed dramatically in November 1930, when the rate of suspension rose suddenly. Contagion through correspondent chains caused the initial increase. Thereafter, runs (and fear of runs) forced scores of banks to close their doors, and adverse circumstances pushed many weak banks into insolvency.

Comments written on the St. 6386 forms tell the tale. On 7 November the Bank of Tennessee (Nashville), a subsidiary of Caldwell and Company, closed due to “depreciation in the value of securities” and irregularities that left it with “bills payable of \$2,887,100.00” and debts “on real estate of \$260,079.20” on a deposit base of \$10,000,000.³⁰ In the following week, heavy withdrawals forced numerous banks in the region to suspend operations. On 12 November the Holston-Union National Bank (Knoxville, TN) closed due to heavy withdrawals “due to loss of confidence caused by failure of banks in Nashville” and the frozen state of its assets.³¹

On 17 November Armageddon arrived. The National Bank of Kentucky (Louisville) suspended operations because of “heavy withdrawals and affiliation with the Caldwell Chain.”³² The closure forced its affiliate, the Louisville Trust Company, to suspend operations on the same day.³³ During the next week 11 respondents of the national bank suspended operations, as did four respondents of the trust company. An additional respondent closed its doors soon thereafter.³⁴ The Federal

³⁰ NARA, Bank Changes, Bank of Tennessee, Nashville, TN, 7 November 1930.

³¹ NARA, Bank Changes, Holston-Union Bank, Knoxville, TN, 12 November 1930.

³² NARA, Bank Changes, National Bank of Kentucky, Louisville, KY, 17 November 1930.

³³ NARA, Bank Changes, Louisville Trust Company, Louisville, KY, 17 November 1930.

³⁴ NARA, Bank Changes, American Mutual Savings Bank, Louisville, KY, 17 November 1930; First Standard Bank, Louisville, KY, 18 November 1930; Bank of Sturgis, Sturgis, KY, 16 December 1930; Peoples Bank, Sulphur, KY, 18 November 1930; Jackson Township Bank, Corydon Junction, IN, 21 November 1930; Hopkins County Bank, Madisonville, KY, 21 November 1930; Bank of St. Helens, Shively, KY, 18 November 1930; Old Capital Bank and Trust Company, Corydon Junction, IN, 20 November 1930; Crawford County State Bank, English, IN, 21 November 1930; Liberty State Bank, New Albany, IN, 20 November 1930; Citizens State Bank of Orleans, Orleans, IN, 25 November 1930; Bank of Caneyville, Caneyville, KY, 19 November 1930; Leavenworth State Bank, Leavenworth, IN, 21 November 1930; American

Reserve attributed the suspension of all of those respondents to the severance of the correspondent linkage.

The American Exchange Trust Company (Little Rock, AR) also suspended operations due to “heavy withdrawals due to rumors caused by failure of Caldwell and Company [in] Nashville.”³⁵ The American Exchange Trust Company was the lead bank in the A. B. Banks chain and one of the principal correspondent institutions in Arkansas and the surrounding states. Its suspension forced 37 of its respondents to suspend operations immediately.³⁶ Another five suspended operations during the following week.³⁷ Some of those respondents—such as the Arkansas Trust Company (Newport) and the Merchants and Planters Bank and Trust (Pine Bluff, AR)—had respondents of their own, which suspended operations in turn.³⁸

One respondent of the American Exchange Trust Company remained in operation for a month. The Citizens Bank and Trust Company (Harri-

Bank and Trust Company, New Albany, IN, 21 November 1930; Title Guarantee and Trust Company, Louisville, KY, 23 June 1931.

³⁵ NARA, Bank Changes, American Exchange Trust Company, Little Rock, AR, 17 November 1930.

³⁶ NARA, Bank Changes, Corning Bank and Trust, Corning, AR, 15 November 1930; Peoples Bank, McRae, AR, 17 November 1930; Merchants and Planters Bank, Humphrey, AR, 17 November 1930; Bank of Altheimer, Altheimer, AR, 17 November 1930; Northern Arkansas Bank, Batesville, AR, 17 November 1930; Bank of Bauxite, Bauxite, AR, 17 November 1930; Benton Bank and Trust Company, Benton, AR, 17 November 1930; Arkansas State Bank, Carlisle, AR, 17 November 1930; Bank of Carthage, Carthage, AR, 17 November 1930; Farmers Bank, Casa, AR, 17 November 1930; Bank of Clarendon, Clarendon, AR, 17 November 1930; Farmers Bank, Danville, AR, 17 November 1930; Exchange Bank and Trust Company, Dermott, AR, 17 November 1930; Peoples State Bank, Devall's Bluff, AR, 17 November 1930; Eudora Bank and Trust Company, Eudora, AR, 17 November 1930; Bank of Fordyce, Fordyce, AR, 17 November 1930; Hampton State Bank, Hampton, AR, 17 November 1930; Bank of Harrisburg, Harrisburg, AR, 17 November 1930; Clebourne County Bank, Heber Springs, AR, 17 November 1930; Merchants and Planters Bank, Helena, AR, 17 November 1930; Bradley County Bank, Hermatage, AR, 17 November 1930; Arkansas Bank and Trust Company, Hope, AR, 17 November 1930; Bank of Houston, Houston, AR, 17 November 1930; Merchants and Farmers Bank, Junction City, AR, 17 November 1930; Cleveland County Bank, Kingsland, AR, 17 November 1930; Chicot Trust Company, Lake Village, AR, 17 November 1930; State Bank of Leola, Leola, AR, 17 November 1930; First State Bank, Morrilton, AR, 17 November 1930; Arkansas Trust Company, Newport, AR, 17 November 1930; First State Bank, Osceola, AR, 17 November 1930; Bank of Pangburn, Pangburn, AR, 17 November 1930; Perry State Bank, Perry, AR, 17 November 1930; Merchants and Planters Bank and Trust, Pine Bluff, AR, 17 November 1930; Bank of Salem, Salem, AR, 17 November 1930; Grant Country Bank, Sheridan, AR, 17 November 1930; Victoria Bank, Strong, AR, 17 November 1930; First State Bank, Stuttgart, AR, 17 November 1930; Bank of Wabbeseka, Wabbeseka, AR, 17 November 1930.

³⁷ NARA, Bank Changes, Bald Knob State Bank, Bald Knob, AR, 20 November 1930; Citizens Bank, Bald Knob, AR, 20 November 1930; Montgomery County Bank, Mt. Ida, AR, 20 November 1930; Bank of Oak Grove, Oak Grove, LA, 21 November 1930; Citizens Bank, Thorton, AR, 28 November 1930.

³⁸ NARA, Bank Changes, Peoples Bank, McRae, AR, 17 November 1930; Citizens Bank, Thorton, AR, 28 November 1930.

son, AR) endured by calling on the resources of the A. T. Hudspeth Chain, for which it was the principal bank. But on 17 December, when those resources ran thin and the loss of funds on deposit in the American Exchange Trust Company appeared irreversible, the Citizens Bank threw in the towel.³⁹ Within 24 hours, its suspension caused seven of its respondent banks and the remaining members of the A. T. Hudspeth chain to suspend operations.⁴⁰

The archival evidence cited attributes the suspension of the Caldwell conglomerate's principal banks to either: financial difficulties directly attributed to Caldwell's demise, or runs because of the banks known connection to Caldwell and Company. The archival evidence attributes the suspension of nearly 100 additional banks to: the severing of correspondent links to institutions, such as the Bank of Tennessee, controlled by the Caldwell conglomerate, runs due to known affiliations with the Caldwell organization, or runs due to geographic proximity to Caldwell controlled institutions or geographic proximity to banks undergoing runs.

Similar events occurred in Illinois, where correspondent chains without connection to Caldwell collapsed. On 8 November Quincy-Ricker National Bank and Trust Company (Quincy, IL) suspended operations due to the collapse its largest borrower, the "Smith and Ricker Land and Cattle Company, of Kansas City, Missouri."⁴¹ Its suspension soon forced four of its respondent banks to close their doors.⁴² During the following week, deposits fell steadily at banks in the vicinity. On 14 November the cash reserves of the State Savings Loan and Trust Company (Quincy, IL) ran out.⁴³ It suspended operations. In the next three days, six of its respondent banks also closed. Three more did so during the next month.⁴⁴

³⁹ NARA, Bank Changes, Citizens Bank and Trust Company, Harrison, AR, 17 December 1930.

⁴⁰ NARA, Bank Changes, Bank of Alpena, Alpena Pass, AR, 17 December 1930; Bank of Northern Arkansas, Everton, AR, 17 December 1930; Bank of Lead Hill, Lead Hill, AR, 17 December 1930; American Exchange Bank, Leslie, AR, 17 December 1930; First State Bank, Marshall, AR, 17 December 1930; Citizens Bank, Yellville, AR, 17 December 1930; Citizens Bank, Saint Joseph, AR, 17 December 1930.

⁴¹ NARA, Bank Changes, Quincy-Ricker National Bank and Trust Company, Quincy, IL, 8 November 1930.

⁴² NARA, Bank Changes, Exchange State Bank, Golden, IL, 8 November 1930; Bank of Green City, Green City, MO, 13 November 1930; Bartlett and Wallace Savings Bank, Clayton, IL, 15 November 1930; State Bank of Brashear, Brashear, MO, 24 November 1930.

⁴³ NARA, Bank Changes, State Savings Loan and Trust Company, Quincy, IL, 14 November 1930.

⁴⁴ NARA, Bank Changes, South Side State Savings Bank, Quincy, 14 November 1930; Payson State Saving Bank, Payson, IL, 14 November 1930; Timewell State Bank, Timewell, IL, 15 November 1930; Downing State Bank, Downing, MO, 17 November 1930; LaBelle Savings Bank, LaBelle, MO, 17 November 1930; Rutledge Exchange Bank, Rutledge, MO, 17 November 1930; Bank of Edina, Edina, MO, 21 November 1930; Farmers Exchange Bank, Silex, MO, 13 December 1930. Farmers and Merchant Bank, LaGrange, MO, 17 November 1930.

The effects of these suspensions spread across state lines. On 20 November the Hannibal Trust Company (Hannibal, MO) suspended operations due to “heavy withdrawals due to closing of a number of banks in their section at Quincy, Illinois.”⁴⁵ The closing of the Hannibal Trust Company forced one of its respondents, the Farmers Bank (Oakwood, MO), to suspend operations later that afternoon.⁴⁶

During December 1930 similar dominoes of collapsing correspondent networks radiated out from Sioux City, Iowa and Clarksdale and Tupelo, Mississippi. On 6 December both the Sioux City National Bank and the First National Bank in Sioux City suspended operations due to “slow, doubtful, or worthless paper.”⁴⁷ Two days later, the Leeds Bank of Sioux City, a respondent of the former, closed its doors.⁴⁸ On 12 December the Exchange Bank of Marcus, a respondent of the latter, ceased operations.⁴⁹ On 17 December another respondent of the latter, The Alvord Bank suspended operations.⁵⁰ This was one of the four banks in the Charles Shade chain. The other three suspended operations the same day.⁵¹

On 24 December the Peoples Bank and Trust Company (Tupelo, MS) suspended operations due to “excessive bills payable” and “slow, doubtful, and worthless assets.”⁵² Its branches at Nettleton and Rienzi closed concurrently. During the next 24 hours, its suspension forced six state banks for which it served as correspondent, located in the towns of Fulton, Guntown, Saltillo, Shannon, Sherman, and Verona, to suspend operations.⁵³ On 30 December 1930 the Planters National Bank in Clarksdale suspended operations, forcing two of its respondents into suspension and inducing banks in neighboring towns to suspend operations for fear of runs.⁵⁴

⁴⁵ NARA, Bank Changes, Hannibal Trust Company, Hannibal, MO, 20 November 1930.

⁴⁶ NARA, Bank Changes, Farmers Bank, Oakwood, MO, 20 November 1930.

⁴⁷ NARA, Bank Changes, Sioux City National Bank, Sioux City, IA, 6 December 1930; First National Bank, Sioux City, IA, 6 December 1930.

⁴⁸ NARA, Bank Changes, Leeds Bank, Sioux City, IA, 8 December 1930.

⁴⁹ NARA, Bank Changes, Exchange Bank, Marcus, IA, 12 December 1930.

⁵⁰ NARA, Bank Changes, Alvord Bank, Alvord, IA, 17 December 1930.

⁵¹ NARA, Bank Changes, Farmers National Bank, Inkwood, IA, 17 December 1930; First National Bank, Rock Rapids, IA, 17 December 1930; Savings Bank, Larchwood, IA, 17 December 1930.

⁵² NARA, Bank Changes, Peoples Bank and Trust Company, Tupelo, MS, 24 December 1930.

⁵³ NARA, Bank Changes, Itawamba Company Bank, Fulton, MS, 24 December 1930; Bank of Guntown, Guntown, MS, 24 December 1930; Bank of Saltillo, Saltillo, MS, 24 December 1930; Bank of Shannon, Shannon, MS, 24 December 1930; Bank of Sherman, Sherman, MS, 24 December 1930; Planters Trust and Savings Bank, Clarksdale, MS, 30 December 1930.

⁵⁴ NARA, Bank Changes, Peoples National Bank, Clarksdale, MS, 30 December 1930; Planters Trust and Savings Bank, Clarksdale, MS, 30 December 1930; Peoples Banks, Jonestown, Mississippi, 30 December 1930.

CORRESPONDENT-CLEARING AND BANK CLOSURES DURING 1931
AND 1932

The previous section showed the banking crisis in the fall of 1930 began with a counter-party cascade. This section shows correspondent networks played roles later in the contraction. An example is an event that Milton Friedman and Anna Schwartz named the Second Banking Crisis. During this surge of suspensions in the spring of 1931, many of the banks that failed belonged to banking groups.⁵⁵

Group failures were most prominent in the city of Chicago, where between 6 and 10 June, 25 banks failed. Nineteen of those banks belonged to groups. Eleven belonged to the John Bain Group. Seven belonged to the Foreman Group. One belonged to the Ralph E. Ballou and E. L. Wagner Group. Additional banks in all three groups failed in the days preceding and following the panic.⁵⁶ For almost all of those suspensions, Federal Reserve agents determined heavy withdrawals to have been the primary cause of closure and slow or frozen assets to have been a contributing cause. Laconic comments written on most of the forms stated that the bank suspended operations after depleting its cash reserves. These comments suggest an epidemic of illiquidity plagued banking groups. Depositors wanted cash. The group's assets were frozen. The banks belonging to the group closed because they could not meet depositors' demands.

Each of these banking groups was a collection of independently chartered institutions operating under the auspices of a corporate conglomerate, which owned the majority of the capital stock in each of the

⁵⁵ NARA, Bank Changes, Nashville Trust Company, Nashville, TN, 5 May 1931; First National Bank, Hendricks, MN, 11 May 1931; Capital City Trust Company, Trenton, NJ, 18 May 1931; Hanover Trust Company, Trenton, NJ, 18 May 1931; Pontiac Commercial and Savings Bank, Pontiac, MI, 13 June 1931; Broadway Merchants Trust Co, Camden, NJ, 15 June 1931; First and Tri State National Bank and Trust Company of Fort Wayne, Fort Wayne, IN, 24 June 1931; First National Bank, Royal Oak, MI, 27 June 1931.

⁵⁶ NARA, Bank Changes, Commerce Trust and Savings Bank, Chicago, IL, 28 May 1931; South Side Savings Bank and Trust Company, Chicago, IL, 6 June 1931; Inland-Irving National Bank, Chicago, IL, 8 June 1931; Washington Park National Bank, Chicago, IL, 8 June 1931; Foreman-State National Bank, Chicago, IL, 8 June 1931; Foreman-State Trust and Savings Bank, Chicago, IL, 8 June 1931; Second North Western State Bank, Chicago, IL, 9 June 1931; North-Western Trust and Savings Bank, Chicago, IL, 9 June 1931; Armitage State Bank, Chicago, IL, 9 June 1931; Auburn Park Trust and Savings Bank, Chicago, IL, 9 June 1931; Brainerd State Bank, Chicago, IL, 9 June 1931; Chatham State Bank, Chicago, IL, 9 June 1931; Chicago Lawn State Bank, Chicago, IL, 9 June 1931; Elston State Bank, Chicago, IL, 9 June 1931; Ridge State Bank, Chicago, IL, 9 June 1931; Stony Island State Savings Bank, Chicago, IL, 9 June 1931; West Englewood Trust and Savings Bank, Chicago, IL, 9 June 1931; West Highland State Bank, Chicago, IL, 9 June 1931; West Lawn Trust and Savings Bank, Chicago, IL, 9 June 1931; Cragin State Bank, Chicago, IL, 10 June 1931; Fullerton State Bank, Chicago, IL, 14 June 1931; First National Bank, Downers Grove, IL, 17 June 1931.

banks, and by appointing directors and hiring managers, controlled the bank's affairs. The leading bank of each of group served as the correspondent for the subordinate institutions. The groups were relatively recent innovations. They had grown during the 1920s, as correspondent banks in Chicago took control over respondent banks.

These groups magnified the weaknesses of the correspondent clearing system. The subordinate banks considered checks in transit as financial reserves. So did the controlling bank. The group as a whole, therefore, overstated its reserves. It is not surprising, therefore, that when depositors withdrew funds in large quantities, banking groups rapidly ran out of cash.

Table 2 examines the relationship between clearing systems and bank closure for the contraction as a whole. The table indicates the number of banks that suspended operations temporarily and terminally in three groups: first, banks that cleared checks solely through correspondents; second, banks that belonged to clearing houses (but not the Federal Reserve System); and third, banks that belonged to the Federal Reserve System (including those that also belonged to clearing houses). The table shows that the preponderance of banks that suspended operations cleared checks via correspondents. About a fifth belonged to the Federal Reserve System. Only a small fraction belonged to clearing houses.

Across these categories, the percentage of banks that suspended operations temporarily or terminally varied. Of all banks that cleared checks via correspondents, over one-third temporarily suspended operations at some point during the depression, and over one-fourth departed permanently from the banking business. These failure rates were four times higher than those of clearing-house members and two-and-one half times larger than those of Federal Reserve members. The failure of the later two types was concentrated during the three months following Britain's abandonment of the gold standard in the fall of 1931, to which the Federal Reserve reacted by contracting the money supply and raising interest rates. That reaction changed fundamentals in a way that burdened money center banks. So did later periods of contractionary policy. Outside of those periods, banks that cleared checks via correspondents failed at rates much higher than banks that cleared checks through clearing houses or the Federal Reserve.

These raw correlations do not, of course, reveal why banks that cleared via correspondents failed at such high rates. Banks that cleared via correspondents differed from clearing-house and Fed-member banks along many dimensions, such as location, size, investment opportunities, customer base, regulatory environment, access to the discount

TABLE 2
TEMPORARY AND TERMINAL SUSPENSIONS BY CLEARING SYSTEM AND YEAR,
JANUARY 1929 TO MARCH 1933

	Correspondent		Clearing		Federal Reserve	
	Term. (a)	Temp. (b)	Term. (c)	Temp. (d)	Term. (e)	Temp. (f)
1929	366	62	3	0	64	7
1930	874	241	37	6	169	21
1931	1,461	224	72	10	432	74
1932	976	133	37	2	290	27
1933	326	41	11	1	83	2
Total	4,003	701	160	19	1,038	131
# 1929		14,080		2,183		8,707
% Suspended		33.4		8.2		11.9
% Failed		28.4		7.3		13.4

Notes: Columns headed "Term" indicate the number of terminal suspensions. Columns headed "Temp" indicate the number of temporary suspensions. Figures for 1933 include only banks that failed preceding the banking holiday. The row "# 1929" indicates the number of banks of that type in operation on 30 June 1929. The row "% Failed" indicates the percentage of banks of that type in operation at the beginning of the depression that suspended operations terminally before the banking holiday in 1933. The row "% Suspended" indicates the percentage of banks of that type suspended operations either temporarily or terminally before the banking holiday.

Sources: Rand McNally Bankers' Directory, Historical Statistics of the United States, and National Archives and Record Administration, Record Group 82, Federal Reserve Central Subject File, file number 434.-1, "Bank Changes 1921-1954 Districts 1929-1954 - Consolidations, Suspensions and Organizations-St. 6386 a,b,c, (By States) 1930-1933."

window, and management expertise. Those dimensions undoubtedly influenced banks' prospects for success (or failure).

DISCUSSION

The correspondent check-clearing system played a hitherto unrecognized role in the collapse of the banking system during the Great Depression. The initial banking crisis began when correspondent systems collapsed. A large literature discusses this event. Friedman and Schwartz attributed the crisis to the loss of depositor confidence after the failure of The Bank of United States.⁵⁷ James McFerrin and Elmus Wicker attributed the crisis to the loss of depositor confidence after the collapse of Caldwell and Company.⁵⁸ Peter Temin, Eugene White, and Charles Calomiris and Joseph Mason attributed the surge of suspensions to fundamental factors affecting the economy.⁵⁹ This essay substantiates

⁵⁷ Friedman and Schwartz, *Monetary History*.

⁵⁸ McFerrin, *Caldwell*; and Wicker, "Reconsideration."

⁵⁹ Temin, *Did Monetary Forces*; White, *Reconsideration*; and Calomiris and Mason, *Fundamentals*.

McFerrin and Wicker's conjecture and details the consequences of Caldwell's demise.

Two new observations complement McFerrin and Wicker's conjecture. First, soon after Caldwell's collapse, several correspondent chains independent of Caldwell imploded. Second, the simultaneous implosion of independent correspondent networks suggests that in addition to problems particular to Caldwell, some unrecognized malady afflicted correspondent chains in general. Fictitious reserves are a candidate for this general cause.

Correspondent-clearing also played a part in the second banking crisis. That crisis began during the spring of 1931 when runs struck banking groups in Chicago. These groups formed correspondent networks whose leading institution had purchased controlling shares of stock in their respondent banks. Little scholarship exists concerning the cause of this crisis. Friedman and Schwartz attribute its onset to runs on banks in Illinois. Friedman and Schwartz do not explain why depositors drained funds from banks at that time or why this drainage drove the banks out of business. This essay provides a potential explanation. Depositors observed the weakness of correspondent networks during preceding months, and precipitously withdrew funds from correspondent groups in Chicago when fears about their safety arose. Once runs began, these groups lacked reserves sufficient to weather the storm, because much of their reserves consisted of checks in the process of collection, which they double or even triple counted, when a bank within the group served as a correspondent for the others.

Correspondent clearing may have played a broader role in the collapse of the banking system. From 1929 through 1933 banks that cleared via correspondents failed at rates higher than banks that cleared via other channels. The cause of this correlation remains unclear. I argue that the cause may have been correspondent networks inherent vulnerability to cascades accentuated by their practice of treating float as reserve. But, banks that cleared via correspondents differed along many dimensions from banks that cleared checks via the Federal Reserve System or metropolitan clearing houses. When compared to the later, on average, banks that cleared via correspondent possessed less capital, lower deposits, and fewer assets; operated in more rural areas; invested more in agriculture; diversified investments less across industries; and employed smaller staffs with less experience. These factors may be the reason that banks clearing via correspondents failed at higher rates from the summer of 1931 through the winter of 1933. Determining which was the most important requires the collection of additional data and the development of techniques to distinguish the effects of contagion

through correspondent networks from other factors influencing banks' fates.

Why did correspondent chains collapse so suddenly and severely early during the depression? Correspondent networks were vulnerable to counter-party cascades. Correspondents and respondents formed lines like dominoes. One bank held deposits for another bank, which in turn, held deposits for a third. These deposits comprised the preponderance of the respondents' reserves (both required and excess). When one domino toppled, the reserves of the next domino disappeared, and it suspended operations also, which forced additional dominoes to fall.

Counter-party cascades of this type have long worried regulators. The systemic risk of correspondent linkages remains high on scholars' research agenda and regulators' list of concerns. Debate revolves around the question: are some banks too big to fail? Could the closure of large institutions drive substantial numbers of their respondents out of business or cause a crisis of confidence that spills over to other banks and financial institutions? This phenomenon manifested itself in 1984, when Continental Illinois, then one of the ten largest banks in the United States, became insolvent.⁶⁰ The phenomenon arose again in 1998, when Long-Term Capital Management, one of the largest and most prominent hedge funds, neared collapse. In both cases, bank regulators intervened because they feared dire consequences for financial markets if the institution failed. These recent examples raise questions such as: would the course of the depression have been different if the Federal Reserve had prevented the collapse of correspondent networks during the early 1930s? Could the Federal Reserve have mitigated the initial banking panics by acting as a lender of last resort for large correspondent institutions?

Effective intervention may have been difficult. Fictitious reserves made depression-era correspondent networks particularly vulnerable to counter-party cascades. The quantity of fictitious reserves peaked just before banking panics began in 1930. In such circumstances, it is not surprising that correspondent chains collapsed so suddenly, that depositor confidence declined so dramatically, that runs struck so many institutions located near the locus of correspondent cascades, or that banks held such sizeable reserves for the next decade.

The evidence presented in this essay only suggests, but does not prove, the existence of sizeable fictitious reserves. Additional research is required. Lack of data will hinder progress. Few sources contain the requisite information. High frequency data concerning checks clearing

⁶⁰ Mishkin, "How Big is Too Big."

via correspondents are not extant and may not exist. Few publications of state banking bureaus report the quantities of checks in the process of collection on state-bank balance sheets. Federal Reserve call reports contain figures for checks undergoing collection, but for nationally chartered banks, only two call reports for the period 1929 through 1933 survive, and nationally chartered banks did not clear through the correspondent system. So, data on their checks in the process of collection shed little light on the key issue.

Though difficult, research on fictitious reserves could be consequential. If fictitious reserves were large, then fictitious reserves may have had macroeconomic consequences beyond their effects on bank stability. One possible channel is by inversely linking the volume of check transactions with the level of bank reserves. An increase in the volume of check transactions increased reserves listed on balance sheets by increasing fictitious reserves. This fictitious increase enabled banks to reduce real reserves, or synonymously, this fictitious increase acted like a decrease in the legal reserve requirement. A change in the volume of check transactions, in other words, had an unintended consequence that resembled one of the principal levers of monetary policy. Via this channel, a change in the volume of check transactions could have altered the deposit-reserve ratio, which is a principal component of the money multiplier, and altered the supply of money, thereby influencing the interest rate and price level.

If the quantity of fictitious reserves expanded substantially during the 1920s and contracted during the 1930s, as the preliminary evidence presented in this essay suggests, then fictitious reserves may have accentuated the macroeconomic forces propelling the economic expansion of the Roaring '20s and economic contraction of the early '30s. This possibility raises another issue. Scholastic studies of these events rely on figures for bank reserves, money multipliers, and monetary aggregates constructed without accounting for the fact that banks that cleared via correspondents counted checks in transit like cash reserves, while banks that cleared checks in other ways did not. This means that those statistical series may have systematic biases correlated with both the volume of checks in transit, the size of various banking systems, and economic aggregates. Finally, the problem of fictitious reserves during the contraction of the early 1930s may be one reason that banks held such sizeable excess reserves during the recovery of the later 1930s. Bankers may have realized that the reserve balance on their books did not reflect the resources actually available during panics. To account for that fact, bankers held reserves larger than those legally required.

REFERENCES

- Anderson, Gordon B. "Some Phases of the New Check Collection System." *Annals of the American Academy of Political and Social Science* 63, National Industries and the Federal Government, (January 1919): 122–31.
- Andrews, Fletcher. "The Operation of the City Clearing House." *Yale Law Journal* 51, no. 4 (February 1942): 582–607.
- Bankers' Magazine*, Various Issues.
- Board of Governors of the Federal Reserve System. *Banking and Monetary Statistics, 1914–1941*. Washington, DC: Federal Reserve System, 1943.
- _____. *All Bank Statistics, 1896–1955*. Washington, DC: Federal Reserve System, 1959.
- Bradstreet's*, Various Issues.
- Bryan, George. "The Law of Clearing Houses." *Virginia Law Review* 2, no. 6 (March 1915): 447–56.
- Calomiris, Charles W., and Joseph R. Mason. "Fundamentals, Panics, and Bank Distress During the Depression." *American Economic Review* 93, no. 5 (December 2003): 1615–646.
- Cannon, James G. *Clearinghouses*. Washington, DC: GPO, 1910.
- Congress of the United States. *Federal Reserve Act*, 12 USC; ch. 6, 38 Stat. 251 (23 December 1913).
- Demmery, Joseph. "Correspondent Banks and the Federal Reserve System." *The University Journal of Business* 2, no. 3. (June 1924): 288–309.
- Friedman, Milton, and Anna J. Schwartz. *A Monetary History of the United States, 1867–1960*. Princeton, NJ: Princeton University Press, 1971.
- Gidney, Ray M. "Federal Reserve Check Clearings and Collections." *The Journal of Political Economy* 24, no. 6, (June 1916): 606–08.
- Gilbert, R. Alton. "Did the Fed's Founding Improve the Efficiency of the U.S. Payments System?" *Federal Reserve Bank of St. Louis Review* 77 (1998): 7–23.
- Goldenweiser, E. A., et al. *Bank Suspensions in the United States, 1892–1931. Volume 4*. Material prepared for the information of the Federal Reserve System by the Federal Reserve Committee on Branch, Group, and Chain Banking, 1931.
- Green, Edward, and Richard M. Todd. "Thoughts on the Fed's Role in the Payments System." *Federal Reserve Bank of Minneapolis Quarterly Review* 25 (2001): 12–27.
- Hamilton, David. "The Causes of the Banking Panic of 1930, Another View." *Journal of Southern History* 51 (November 1985): 581–608.
- James, John, and David Weiman. "Drafts, Correspondent Banking Networks, and the Transformation of the U.S. Payments System, 1850–1914." Manuscript, February 2004.
- _____. "From Drafts to Checks: The Evolution of Correspondent Banking Networks and the Formation of the Modern U.S. Payments System, 1850–1914." ISERP Working Paper 06-11, December 2006.
- Kniffin, William. *The Practical Work of a Bank: A Treatise on Practical Banking Which Aims to Show the Fundamental Principles of Money; The Practical Work of Bank in Detail, and Particularly, Credit in its Relation to Banking Operations, Seventh Edition*. New York: The Bankers Publishing Company, 1928.
- Lawrence, J. S. "Borrowed Reserves and Bank Expansion." *Quarterly Journal of Economics* 42, no. 4. (August 1928): 593–626.

- Lawrence, Robert, and Duane Lougee. "Determinants of Correspondent Banking Relationships." *Journal of Money, Credit, and Banking* 2, no. 3 (August 1970): 358–69.
- Lucia, Joseph. "The Failure of the Bank of the United States: A Reappraisal." *Explorations in Economic History* 22 (October 1985): 402–16.
- Magee, James D. "Historical Analogy to the Fight Against Par Check Collection." *The Journal of Political Economy* 31, no. 3 (June 1923): 433–45.
- McFerrin, James B. *Caldwell and Company*. Chapel Hill: University of North Carolina Press, 1939.
- Mishkin, Frederic. "How Big a Problem is Too Big to Fail? A Review of Gary Stern and Ron Feldman's *Too Big to Fail: The Hazards of Bank Bailouts*." *Journal of Economic Literature* 44 (December 2006): 988–1004.
- National Archives and Records Administration, Record Group 82, Federal Reserve Central Subject File, file number 434.-1, "Bank Changes 1921–1954 Districts 1929–1954 - Consolidations, Suspensions and Organizations-St. 6386 a,b,c, (By States) 1930–1933."
- Palyi, Melchior. "Should Interbank Balances be Abolished?" *The Journal of Political Economy* 47, no. 5 (October 1939): 678–91.
- Preston, Howard. "The Federal Reserve Banks' System of Par Collections." *Journal of Political Economy* 28, no. 7 (July 1920): 565–90.
- Rand McNally. *Rand McNally Bankers' Directory*, various issues. Chicago: Rand McNally.
- Redenius, Scott A. "Hubs and Spokes: Network Effects and the Formation of Regional Banking Centers." Manuscript: Bryn Mawr College, February 2003.
- Richardson, Gary. "The Records of the Federal Reserve Board of Governors in the National Archives of the United States." *Financial History Review* 13, no. 01 (April 2006): pp 123–34.
- _____. "Bank Distress during the Great Contraction, 1929 to 1933, New Evidence from the Archives of the Board of Governors." NBER Working Paper w12590, Cambridge, MA, October 2006.
- _____. "Quarterly Data on the Categories and Causes of Bank Distress during the Great Depression," NBER Working Paper w12715, Cambridge, MA, December 2006.
- _____. "Correspondent Clearing and the Banking Panics of the Great Depression." NBER Working Paper w12716, Cambridge, MA, December 2006.
- _____. "Bank Distress during the Great Depression: The Illiquidity-Insolvency Debate Revisited," NBER Working Paper w12717, Cambridge, MA, December 2006.
- Richardson, Gary, and William Troost. "Monetary Intervention Mitigated Banking Panics During the Great Depression: Quasi-Experimental Evidence from the Federal Reserve District Border in Mississippi, 1929 to 1933." NBER Working Paper w12591, Cambridge, MA, October 2006.
- Spahr, Walter E. *The Clearing and Collection of Checks*. New York: Bankers Publishing, 1926.
- Talbert, Joseph. "Clearing: House and Domestic: Exchange Functions of the Federal Reserve Banks." *Proceedings of the Academy of Political Science in the City of New York* 4, no. 1 (October 1913): 192–212.
- Temin, Peter. *Did Monetary Forces Cause the Great Depression?* New York: W.W. Norton, 1976.
- _____. *Lessons from the Great Depression*. Cambridge, MA: MIT Press, 1989.

- United States, Bureau of the Census. *Historical Statistics of the United States, Colonial Times to 1970. Bicentennial Edition*. Washington, DC: U.S. Department of Commerce, GPO, 1975
- Warne, Colston E. "Enforced Par Remittance Under the Federal Reserve System." *The Quarterly Journal of Economics* 36, no. 2, (February 1922): 274–89.
- Watkins, Leonard L. *Bankers' Balances*. Chicago: A. W. Shaw Company, 1929.
- White, Eugene. 1984. *The Regulation and Reform of the American Banking System, 1900–1929*. Princeton, NJ: Princeton University Press, 1983.
- _____. "A Reinterpretation of the Banking Crisis of 1930." *This JOURNAL* 44, no. 1 (1984): 119–38.
- Wicker, Elmus. 1980. "A Reconsideration of the Causes of the Banking Panic of 1930." *This JOURNAL* 40, no. 3 (1980): 571–83.
- _____. *The Banking Panics of the Great Depression*. Cambridge: Cambridge University Press, 1996.
- Young, Stanley. "Enlargement of Clearing House Functions." *Annals of the American Academy of Political and Social Science* 36, no. 3, Banking Problems (November 1910): 129–34.