Private Sector Responses to the Panic of 1907: A Comparison of New York and Chicago

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The recently proposed (and aborted) merger between software giant Microsoft and Intuit, the producer of the leading personal financial software for personal computers, demonstrated the potential for growth among nonbank providers of payment services. In this case, neither of the parties is in the payments system, of course, but the recent growth in payments services provided through nonbank entities and the tremendous potential for the use of technologies like the Internet for such services points toward greater participation in the payments system by nonbank providers of payment services. For regulators, this trend raises questions: What if nonbank providers of such services suffer unfavorable balances or experience a run? How should they be treated? New York's and Chicago's contrasting experiences during the Panic of 1907 may provide useful lessons concerning this issue for both regulators and market participants.

During the National Banking Era (1863-1914), several episodes of recurrent financial crises plagued the United States well after most other developed banking systems had eliminated them. By this time most European countries had central banks that could provide reserves during a crisis, but in the United States bankers and depositors still had to rely mainly on the private sector to meet unusual demands for cash. Without a central bank to function as a lender of last resort, the U.S. banking system during panics turned to private market organizations known as clearinghouses to protect the system from a total shutdown.[1]

The Panic of 1907, the last and most severe of the National Banking Era panics in the United States, provides an example of how private market participants, in the absence of government institutions, react to a crisis in their

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industry. In previous research, the authors highlighted how the Panic of 1907 centered on New York City trust companies (Ellis W. Tallman and Jon R. Moen 1990; Moen and Tallman 1992). These trusts, a kind of intermediary not designed as a bank but performing bank services, saw dramatic growth in deposits at the turn of the century mainly as an avenue for circumventing legislative restrictions on national banks.

This article compares private market responses to the Panic of 1907 by bank intermediaries in New York and Chicago through the institution of the clearinghouse. The different responses to the panic center on the relationship between national banks and trust companies and the relationship between the private clearinghouses and trust companies. The fact that New York trust companies were not members of the New York Clearinghouse, whereas the larger Chicago trusts were members of the Chicago Clearinghouse, greatly influenced how the private sector in each city was able to cope with the panic. In Chicago, the clearinghouse had timely information on the condition of most intermediaries in the city, including the trusts, and therefore was able to react quickly to any potential threats to the payments mechanism. The circumstance in New York was notably different. The apparent isolation of trusts from the New York Clearinghouse left the clearinghouse with inadequate knowledge of their condition and hindered prompt action when panic withdrawals first struck those intermediaries.[2]

The lesson this historical instance offers is that it is unwise to ignore the implications of modern-day financial distress at nonbank intermediaries offering payments services. Although the distinct nature of the Panic of 1907 and the differences between private market regulation of clearinghouses and the current framework of public regulation limit any further inference about recommended responses in today's financial world, there is a clue in examining the historical episode for the questions it raises and for the debate and research it may generate about the potential responses of public authorities to impending changes in the financial system.

Structures and Institutions in New York and Chicago

The Rise of Trusts. The system of unit banking and the stratification of national banks produced several financial centers in the United States, with New York and Chicago being the most important.[3] Even though national banks in both cities had been operating as central reserve banks under the guidelines set down by the National Banking Acts (1863, 1864), and their financial intermediaries operated under similar legal constraints and regulations, the panic unfolded quite differently in each city.[4] In New York dramatic runs hit the trust companies, forcing several to close. In Chicago suspension of convertibility of deposits into cash was not as extensive as in New York, and the contraction in deposits was much less severe. No trusts were forced to suspend in Chicago. In New York J.P. Morgan was central in directing the actions of the commercial bankers and a rather reluctant clearinghouse association. The Chicago clearinghouse and its member banks appear to have been key in coordinating the response to the panic.

As it does today, New York City obviously played a more central role in the United States financial system than Chicago did. In 1907 the total assets of all New York City national banks were more than five times the size of all Chicago national bank assets—$1.8 billion versus $340 million (Moen and Tallman 1992, 612; F. Cyril James 1938, 688). Nevertheless, similarities between the two financial markets justify a comparison. For example, the largest banks and trust companies in Chicago had a volume of assets comparable to that of the largest New York banks and trusts.[5]

Both cities also saw the rapid rise of a relatively unregulated intermediary, the trust company, around the turn of the century (George E. Barnett 1907, 234-35; Moen and Tallman 1992, 612). In Chicago the pace of growth equaled that in New York (James 1938, 690; Moen and Tallman 1994, 20). Notably, between 1896 and 1906 trust company assets and liabilities in both cities grew more quickly than did those at national banks. The result was that by 1907 the trusts in each city controlled a volume of assets comparable to the national banks.

The National Banking Acts of 1863 and 1864, which limited the investment activities of federally chartered banks, had set substantial reserve requirements in response to the perceived instability of banks in the earlier free-banking era. State regulatory agencies, on the other hand, generally placed fewer constraints on trust companies, with laws in New York and Illinois differing little.[6] Unlike national banks, trusts could invest in real estate, underwrite stock market issues, make loans against stock market collateral, and own stock equity directly in addition to taking in deposits and clearing checks. Trusts in Chicago also provided unsecured lines of commercial credit (James 1938, 702). National banks could make loans against stock market collateral (call loans), but the National Bank Acts prohibited the other activities, restricting banks to making commercial loans, issuing bank notes, and taking in deposits. The trusts thus offered a way around these restrictions.

Initially trust companies had been established to hold accounts in trust for private estates, and they tended to be small, conservative institutions. Even though they had been given substantial leeway to invest their assets, trusts took advantage of their unregulated status relatively late in the National Banking Era. By 1907, however, trust companies in both New York and Chicago were fully exploiting their investment capabilities.

National banks in these cities sometimes operated trust departments or owned controlling interests in trust companies. Bankers sat on the boards of directors of trust companies, and in Chicago one of the larger trust companies was owned directly by a national bank.[7] Nevertheless, the largest trust companies in New York and Chicago were generally independent of the national banks. These large trust companies included the Knickerbocker Trust Company and the Trust Company of America in New York and the Merchants Loan and Trust Company and the Illinois Trust and Savings Bank in Chicago.

Clearinghouses. The absence of a central bank made the rise of the private clearinghouse especially dramatic in the United States, and its functions expanded substantially during the National Banking Era (Kevin Dowd 1994; Gary Gorton and Donald Mullineaux 1987; Richard Timberlake 1984). Near the end of the period the clearinghouses had taken on many of the tasks usually associated with a central bank: holding reserves, examining member banks, and issuing emergency currency. Actions by the clearinghouses became central in containing panics.

In both Chicago and New York the clearinghouse could examine the books of member institutions if there was reason to believe a member was facing insolvency. The Chicago Clearinghouse helped formalize the examination powers of clearinghouses when it established an office of independent examiner in 1905, assigning power to examine in detail the books of member institutions at the request of the clearinghouse committee. Many cities followed suit, including New York (James 1938; Fritz Redlich 1968; Gorton 1985). The New York Clearinghouse likewise required members regularly to submit balance sheets made publicly available through the clearinghouse or the state banking regulator.

New York. The most important difference between the trusts in Chicago and New York was their relationship to their respective clearinghouses. In New York in 1907 national banks were members of the clearinghouse. Because trusts were not, they had limited access to the clearinghouse. To avail themselves of clearinghouse services—for example, to clear checks—trust companies had to go through a bank that was a member of the clearinghouse. Not only was access to the clearinghouse indirect but it was uncertain. To secure these services, trusts left significant deposits at banks as clearing balances. These balances, as well as some bankers' balances held at trusts for banks, formed a tight connection between banks and trusts even though trusts were not clearinghouse members.

Unlike in Chicago, national banks in New York viewed trusts as serious competitors. The two became intense rivals over time, with the banks believing they had a "trust company problem" (C.A.E. Goodhart 1969, 18-19; Redlich 1968, 2, 178). Some have even speculated that the New York banks instigated the panic in 1907 to bring down the trusts, although H.L. Satterlee, J.P. Morgan's son-in-law, argued that no bank would cause a run on another institution out of fear that it might bring itself down (Tallman and Moen 1990, 7). Evidence to date does not suggest a similar adversarial relationship in Chicago.

The Panic of 1907 provides an example of how private market participants, in the absence of government institutions, react to a crisis in their industry.

Trust companies in New York had not always been isolated from the clearinghouse. Many trusts had been full members of the New York Clearinghouse up to 1903, but New York national banks complained that the trusts' ability to engage in commercial bank activities without holding the large specie reserves of central reserve city national banks was unfair. In response, the New York Clearinghouse passed a rule requiring member trusts after June 1, 1904, to maintain a cash reserve—between 10 and 15 percent of deposits—with the clearinghouse. Until that time trusts had normally held only 5 percent cash reserves. In response to the rule trust companies quickly terminated their memberships and withdrew completely from the clearinghouse.[8] New York trusts on occasion discussed the possibility of forming their own clearinghouse, but the project never got beyond the discussion stage.

Chicago. In sharp contrast, the larger trusts in Chicago were full members of the clearinghouse, and the larger trust companies as well as national banks cleared checks for the smaller banks and trusts.[9] Unlike their counterparts in New York, trust companies in Chicago were not isolated from the clearinghouse. The Chicago Clearinghouse contemplated imposing on member trusts a reserve requirement similar to that in New York, but such a rule was never adopted (James 1938, 729).

The composition of the Chicago Clearinghouse Committee, six men who served as the executives of the clearinghouse, shows the close link between banks and trusts. In 1907, three of the six were the presidents of large national banks, and the other three were the presidents of the three largest trust companies in Chicago.[10]

Banking Panics

Panics—namely, banking panics—are either foreign concepts to those unaware of their existence or a distant memory to those who lived through them.[11] A bank panic can be described as a widespread desire on the part of depositors in all banks to convert bank liabilities—their deposits—into currency. A panic entails removal of bank deposits from the depository system, thus threatening the intermediation process. In contrast to bank runs, bank panics are basically systemic problems. Related but distinctive are bank runs, which occur when depositors attempt to liquidate all their deposits at a particular institution. Because the funds may be redeposited at another bank, a bank run does not necessarily imply the removal of funds from the banking system. A number of banks in a region can be affected simultaneously, but the run still does not extend to the entire banking system. Panics can be viewed as systemic bank runs.

Bank panics were dangerous especially to the national banking system. During this era, as throughout most of its history, the U.S. banking system has operated on a fractional reserve basis, which is designed so that the cash reserves of banks are only a fraction of their outstanding liabilities. In addition, a high proportion of bank liabilities are demand deposits—that is, deposits a bank is obligated to pay in cash on demand to depositors. The exchange of deposits for currency at banks may appear initially as equal reductions to both cash holdings and deposits. However, banks keep cash reserves at a reasonable percentage of outstanding liabilities. Thus, when a large amount of deposits is converted to cash, banks may be forced to liquidate some of their interest-bearing assets to increase their cash reserves. Under the National Banking System, without a central bank, the fractional reserve system could not satisfy a large-scale conversion of bank deposits into currency.

Bank panics during the National Banking Era displayed similar characteristics. In general, according to Philip Cagan (1965), bank panics followed business cycle peaks. Often, panics occurred in either spring or fall; this phenomenon can be partly explained by noting that, without a central bank, the seasonal movement of funds between the Midwest and financial centers in the East put strains on bank reserve positions. The failure of a large business or financial institution usually preceded a panic. The length of panics varied; the most intense part of a panic typically took place in the span of a few weeks, and the remnants usually subsided within a few months.

In addition, the stock market would frequently suffer substantial losses in the aggregate, before and during the panic. These could signal to depositors that bank assets might be riskier, especially given the proportion of loans backed by stock market collateral. These loans, known as call loans, were in normal times liquid and demandable loans. During panics, call loans were often viewed as highly risky because the collateral backing them might have fallen to less than the nominal value of the loan. In the Panic of 1907, the precipitous decline in the stock market contributed greatly to the perception that bank assets were questionable.

Panics during the National Banking Era were also characterized by certain mechanisms that private bankers employed to survive the crises. Local clearinghouses provided the medium through which these mechanisms were instituted. James G. Cannon has described this fuller role of clearinghouses: "A Clearinghouse, therefore, may be defined as a device to simplify and facilitate the daily exchanges of items and settlements of balances among the [member] banks and a medium for united action upon all questions affecting their mutual welfare" (1910, 1).

The two primary methods for responding to bank panics during the National Banking Era were (1) clearinghouse loan certificates and (2) the restriction or suspension of bank deposits' convertibility into currency. Clearinghouse loan certificates, which were loans extended for the purpose of forming reserves, were written for clearinghouse association members and were acceptable for settling clearinghouse accounts. Thus, the clearinghouse and its loan certificates offered the banking system an artificial mechanism to expand the supply of available reserves in order to prevent loan contraction.

When restricting the convertibility of deposits into currency, banks limited the amount of cash available or refused to pay cash in exchange for deposits as they were legally bound to do. This procedure reduced the outflow of bank reserves by slowing the liquidation of deposits. Both mechanisms allowed banks to continue other operations such as making loans and clearing deposits, with restrictions applying only to conversions of deposits into currency. Transactions within the banking system were supported through book entries of debits and credits to member institutions.

Similar Threats, Different Responses

The Panic of 1907 posed similar threats to money markets in both Chicago and New York, and intermediaries' protective responses were in some ways similar. Both cities saw the issuance of clearinghouse certificates and the convertibility of deposits suspended to varying degrees. Chicago banks, like those in New York, imported gold directly from London to maintain reserves (James 1938, 764-65; O.M.W. Sprague 1911, 297). Yet the outcomes were different.

In New York City, the panic hit trust companies hard. Their deposits contracted substantially, whereas at the national banks they increased; the most significant runs occurred at the trusts (Moen and Tallman 1992). A number of New York banks and trusts failed.

In contrast, in Chicago the movements in deposits at the trust companies—and the national banks, for that matter—were much less severe. No obvious difference emerges between depositors' treatment of trusts and national banks in Chicago: demand deposits fell 6 percent at trusts and 7 percent at national banks during the panic (Moen and Tallman 1994). No banks or trusts failed (F. Murray Huston 1926, 360).

Clearinghouse actions are key in explaining these different outcomes. The panic in New York was sparked by F. Augustus Heinze's attempt to corner the stock of United Copper Company.[12] The collapse of the corner on October 16, 1907, revealed an intricate series of connections linking Heinze to the banking system. Depositors at the banks associated with Heinze and his associates began a series of runs after the collapse, the first being on Mercantile National Bank. The New York Clearinghouse Association examined the bank's assets, found it solvent, and announced that it would support the bank if Heinze would relinquish control of it. Depositors also ran several other Heinze banks, but the clearinghouse promise of support quelled these runs as well. By October 21 the Heinze banks had been reorganized and reopened with new management with the help of the clearinghouse.

On October 21 the panic in New York began in full force, however. The National Bank of Commerce announced that day that it would no longer clear checks for the Knickerbocker Trust Company, alarming the trust's depositors.[13] In the evening after the news became public, J.P. Morgan, who had been organizing relief efforts during the runs on the Heinze banks, organized a committee of five trust company executives to discuss ways to halt the incipient panic at the trust companies. In the meantime, Benjamin Strong had been attempting to evaluate the financial condition of the Knickerbocker Trust but reported to Morgan that he had been unable to do so before it was to open the next day. With this news Morgan decided not to commit funds to aid the trust; other institutions followed suit. Because the clearinghouse did not regularly monitor New York City trusts, it could not make decisive actions without tedious and protracted examination of trust books first, and the national banks were unable to grant the Knickerbocker Trust aid quickly. On the morning of October 22 a massive run engulfed Knickerbocker, forcing it to close at noon after having paid out over $6 million in cash. Runs picked up the next day at several other large trust companies.

To combat the panic at the trust companies, the committee of trust company presidents J.P. Morgan had organized attempts to collect funds from other trust companies to stem the panic. When few trusts were willing to cooperate, the committee turned to Morgan. He asked several presidents of the large national banks in New York to assist him. Over the next few days Morgan convinced other financiers to contribute to a "money pool" to aid the trust companies. James (1938, 755-56) described the New York bankers' reluctance to unite to face the threat to the payments system, and he refers to the money pools as attempts at "piecemeal salvage."

The New York Clearinghouse issued clearinghouse certificates to increase liquidity among New York national banks. Use of certificates instead of cash to settle clearing balances between banks released cash to be paid to depositors. Criticizing the clearinghouse for delaying the use of loan certificates until the panic was well under way, Sprague (1911, 257-58) argued that earlier release of certificates would have calmed financial markets, avoiding the cumbersome, ad hoc money pools and sending aid directly to the troubled banks and trusts.

In reality, however, because the trusts were outside of the New York Clearinghouse, resorting to certificates earlier may have done little to stem the panic at the trusts. Although the use of certificates certainly freed up cash for the national banks to pay out to their depositors, it is not clear how it would have reached the trust companies. The use of clearinghouse certificates may have signaled to depositors that the clearinghouse was willing to protect banks. For trusts, no such signal could be inferred.[14]

There is historical precedent for the development and growth of payments services offered by nonbank providers, which can become key players in the payments system and should not be ignored.

In Chicago the private sector response to the panic unfolded differently. Most of it appears to have been contained within the purview of the Chicago Clearinghouse Association, with no particular class of intermediary isolated from the efforts to control the panic. While there were unusually high demands for cash by Chicago depositors during the panic, outright runs like those on the New York trust companies did not occur. In contrast to New York, where a lack of "united action on the part of all New York bankers to meet the situation" helped fuel the panic, bankers in Chicago began shipping cash to correspondents.[15] As the drain on reserves heightened, Chicago bankers began to worry.

Upon learning that the New York Clearinghouse was planning to issue clearinghouse loan certificates, the Chicago Clearinghouse Committee convened and decided to issue loan certificates as well. Partial suspension of currency payments was imposed, with no payments going to correspondent banks in the South or the West. James (1938) criticized this action on the grounds that the use of loan certificates was meant to release cash to pay to depositors, and banks were using the certificates to settle balances among themselves. Sprague (1911) was similarly critical of New York banks. James Forgan, president of the First National Bank of Chicago, decided after a few days that suspension of currency payments combined with the issuance of loan certificates was an ill-formed policy, and the First National Bank began to resume some cash payments to correspondents. Reserves at Chicago national banks fell rapidly to less than 18 percent, well below the legal minimum reserve requirement of 25 percent. Reserves at New York national banks rarely went below 25 percent. Nevertheless, cash payments by Chicago banks did not restore confidence to depositors and correspondents.

The Chicago Clearinghouse eventually authorized issuing some form of emergency currency, an action that went far in relieving Chicago depositors' anxiety. James indicates that the clearinghouse began issuing clearinghouse checks on November 6, partly in response to a petition presented by 500 leading citizens of Chicago.[16] This step apparently calmed the Chicago money market sufficiently, allowing the task of removing restrictions on payments to begin.

Several differences between the Chicago money market and New York's are worth noting. James (1938, 757) argued that the institution of a formal bank examiner had allowed the Chicago Clearinghouse to identify potential weak spots in the banking system and therefore placed it in a sounder position than the clearinghouse in New York in the early stages of the panic in 1907. It was significant that no particular class of intermediary had been excluded from systematic examination in Chicago.

The Chicago Clearinghouse also appears to have been less hesitant to issue clearinghouse loan certificates to member banks and trusts than the New York Clearinghouse had been. In criticism similar to Sprague's of the New York Clearinghouse, James (1938, 761-62) faulted the Chicago Clearinghouse for not issuing clearinghouse loan certificates as emergency currency with the general public soon enough. In comparison with the systematic exclusion of trusts from the clearinghouse in New York, however, the speed with which the two clearinghouses resorted to certificates may not have been as important a factor in resolution of the panic.

The Chicago Clearinghouse had learned the value of a united effort to protect the payments system several years earlier (James 1938, 714-19). In December 1905, the Illinois State Auditor threatened closing a chain of banks owned by John Walsh. Many bankers at the time felt that outright failure of the banks would teach a lesson to others about unsound banking. Wanting to avoid harmful effects on the larger banking system, however, James Forgan persuaded reluctant members of the Clearinghouse to stand together and guarantee payment on deposits at the Walsh banks in spite of losses the clearinghouse banks would incur. As a result, no runs ensued. It was this crisis that prompted the Chicago Clearinghouse Association's decision to appoint a special bank examiner.

An earlier experience may have also taught the Chicago Clearinghouse about the importance of clearinghouse access in preventing bank runs (James 1938, 677-78). On Saturday, December 26, 1896, officers of the Atlas National Bank decided that the bank could not reopen the following Monday. The clearinghouse committee met and decided that the bank should be liquidated and that member banks of the clearinghouse should provide the funds (approximately $600,000) needed to close the bank and pay depositors. This action tended to relieve the general anxiety pervading the Chicago banking system.

The Atlas National, however, had an affiliated savings bank managed by the same board of directors but not included in the clearinghouse plan to liquidate the national bank. Even though the savings bank had been well managed and had a good reputation, the failure of the parent institution and the savings bank's exclusion from the clearinghouse liquidation plan quickly caused a run on the savings bank. It was forced into receivership within a month (James 1938, 679).

Besides the different roles of the clearinghouses in Chicago and New York, the close relationship between the stock market and the banking system in New York may have contributed to the panic's being more severe in that city. Both national banks and trusts in New York were potentially more exposed to fluctuations in the stock market. National banks in New York deposited their bankers' balances—deposits from other banks to meet reserve requirements established by the National Banking Acts—in the short-term call loan market at the stock exchange. Trust companies in New York also held a large volume of call loans. Nevertheless, the greater exposure to the stock market would serve to distinguish both banks and trusts in New York from those in Chicago, not banks from trusts in either city.

Interpreting the Differences

The following interpretation of the differences in deposit and loan behavior in New York and Chicago takes into consideration the structural similarities and differences in the two money markets. Direct access to the liquidity of the clearinghouse prevented panic and runs at Chicago trusts. Being associated with the clearinghouse, the trust companies were perceived as part of the clearinghouse payments system in Chicago and were treated like the national banks by depositors and correspondents.

In New York the trusts had little access to the liquidity the clearinghouse provided and were not viewed as internal to the clearinghouse payments system. The extreme contraction in deposits at trusts reflected depositors' awareness of the isolation of the trusts from the clearinghouse. In both cities there was a net reduction in deposits during the panic, but depositors in Chicago made little distinction between trusts and national banks, and the intermediaries were comparably liquid.[17]

The New York trusts, outside of the clearinghouse, were much less restricted than national banks. Their ability to compete in the same markets as banks but at lower costs added instability to the entire payments system, and a run on one class of intermediary could threaten the collapse of the entire interconnected system. Even if other intermediaries were viewed as safe, a run on the trusts threatened to drain reserves from the entire system. This isolation of New York trusts from the clearinghouse seems a key element in propagating the runs on the trusts.

In Chicago, as in New York, the different intermediaries faced different degrees of government regulation. In Chicago, however, the disparity in official regulation between trusts and banks was reduced by allowing trusts reliable access to additional reserves through the clearinghouse. The difference this access made supports Timberlake's argument that clearinghouses could potentially serve the banking industry as the lender of last resort. This history cautions, though, that the simple existence of a clearinghouse is not enough to provide stability to a banking system, particularly if the coverage of the clearinghouse is circumscribed. The broader coverage of the Chicago clearinghouse and its greater knowledge of the condition of intermediaries appear critical elements in the prevention of widespread runs in the city.

Even though the clearinghouses had been evolving into de facto central banks, it is clear that their development was not complete by the Panic of 1907. The severity of the panic in New York and the absence of a reliable mechanism to cope with financial crises convinced the leading bankers that a centralized and reliable source of liquidity was necessary as the money market grew and became more complex. In particular J.P. Morgan, who had been at the center of the efforts to stop the panic in New York, probably expected that subsequent panics might be even more severe and beyond his or the clearinghouse's ability to control. Rather than continuing to put his assets at risk, Morgan (and other New York bankers) sought a national scheme for dealing with financial crises.

The course of the panic in Chicago suggests that wider coverage by private sector institutions like the clearinghouse could reduce the potential for financial crises. A private sector solution, however, was only temporary. In 1908 the Aldrich-Vreeland Act authorized national banks to issue emergency currency.[18] The long-run impact of the Panic of 1907 and the impacts on the New York money market was that it led to the establishment of the National Monetary Commission and, eventually, to the creation of the Federal Reserve System, which radically changed the banking industry.

It should be made clear that the point of this article is not to present the discussion and evidence as support for extending the "safety net" to intermediaries not perceived as in the payments system. The Chicago Clearinghouse that monitored trusts as well as extended the benefits of membership was a private coalition of member banks and trusts. The private market structure is clearly different from modern regulator-bank relationships, and to make strong inferences for current circumstances from this instance takes the study beyond its intended goal. Rather, the analysis suggests that there is historical precedent for the development and growth of payments services offered by nonbank providers, which can become key players in the payments system and should not be ignored. The key lesson from history is that such ignorance may be expensive.

Notes

1. The U.S. Treasury attempted on occasion to intervene in financial markets near the end of the National Banking Era—the active Treasury period—but the volume of funds controlled by the Treasury was not adequate to cope with panics.
2. This article complements research in Moen and Tallman (1994). That paper introduces data from Chicago trusts and banks to help uncover the sources of the panic in New York and uncover the differences in the New York and Chicago experiences. The data allow extensive statistical investigation of the panic that the use of New York data alone would not allow. Interested readers are directed to the working paper for further information.
3. St. Louis, the third central reserve city, basically abandoned its role as a central reserve city during the Panic of 1907 (James 1938, 766 fn). This discussion therefore ignores the role of St. Louis banks during the panic.
4. National banks were federally chartered institutions regulated by the Office of the Comptroller of the Currency; the banks were restricted from owning real estate or stock equity directly and had strict requirements on their reserve ratio (reserves/deposits). Trust companies, on the other hand, were examined by state banking regulators and typically had fewer restrictions placed on their investments and their reserve ratios.
5. The Illinois Trust and Savings Bank had assets equal to \$107 million dollars in August of 1907 while the Knickerbocker Trust in New York had \$69 million. The largest trust in New York was the Farmer's Loan and Trust Company, with \$90 million in assets.
6. Indeed, New York's statute was often used as a model by other states drafting regulations covering state-chartered institutions (Magee 1913; Welldon 1910).
7. The First National Bank of Chicago, one of the two largest banks in the nation by 1907, had established its own trust company, the First Trust and Savings Bank. James B. Forgan, president of both the First National Bank and the First Trust and Savings Bank, designed an ownership arrangement that gave the bank and several of its officers complete control over its trust company by acting as trustee for the bank's stockholders (James 1938, 693-95). Forgan was apparently concerned that if the stockholders of the First National Bank were given direct ownership of the trust's stock, over time control of the trust company could slip away from the bank as the bank's stockholders sold their trust shares to outsiders.
8. See Smith (1928, 346-49). Trusts were readmitted to the New York Clearinghouse in May 1911.
9. James (1938, 711-12) provides a list of clearinghouse members and institutions for which they cleared checks.
10. National bank presidents included J.B. Forgan, Ernest A. Hamill, and George M. Reynolds. Trust company presidents included John J. Mitchell, Byran L. Smith, and Orson Smith (Huston 1926, 507-11).
11. The following description summarizes material explained in more detail in Tallman (1988).

12. The following account is based on the more detailed history in Tallman and Moen (1990).
13. Why National Bank of Commerce refused is not clear.
14. In cases of troubled banks approaching illiquidity (as opposed to insolvency), the clearinghouse would guarantee the deposits of the troubled institution in the form of a coinsurance scheme. Timberlake (1984) has pointed out the effectiveness of clearinghouses in preventing the collapse of a fractional reserve system. He emphasizes the ability of the clearinghouse to gather its members into a single force during a crisis, issuing a temporary currency—clearinghouse loan certificates—to meet exceptional demands by depositors for currency.
15. Much of the story below follows from James (1938).
16. Clearinghouse checks were issued directly to depositors, and clearinghouse loan certificates circulated between banks.
17. See Moen and Tallman (1994) for the theoretical implications of the panic in New York and Chicago.
18. Although such currency was issued only once, some scholars have argued that this device was effective for dealing with financial crises and was preferable to the solution eventually chosen (Friedman and Schwartz 1963, 172).

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