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United States: New York Clearing House Association, the Panic of 1873[1]

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Abstract

In the absence of a central bank, the New York Clearing House Association (NYCH), a group of 60 New York City banks, stepped in as a private lender of last resort in response to banking runs during the Panic of 1873. The NYCH issued clearinghouse loan certificates (CLCs) to member banks that could use them as temporary payment substitutes to settle their clearing balances with other member banks. Borrowing banks paid a flat 7% interest rate. If a borrowing bank failed to repay its CLCs, the membership of the NYCH internally split the cost based on each member bank's share of capital and surplus. The NYCH required borrowing banks to deposit collateral, typically commercial paper and commercial loans, with its Loan Committee. In total, the NYCH issued about $26.6 million in CLCs from September 22 to November 20. On September 20, the NYCH announced it was requiring its members to pool their cash reserves, a controversial measure that it had used in earlier crises but would not use again after 1873. The 1873 crisis was also the first time clearinghouses in cities outside New York issued CLCs. The NYCH's final CLC was canceled on January 14, 1874, as stability had returned to the New York banking sector. However, the Long Depression would inflict damage on the real economy for an additional five years.

Keywords: Clearinghouse loan certificates, National Banking Era, New York Clearing House Association, Panic of 1873, private lender of last resort

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Overview

In 1854, New York City banks joined together to form the New York Clearing House Association (NYCH), which served to simplify and streamline the settlement of clearing balances between banks (Gorton and Tallman 2018, 14). During the National Banking Era (1863–1913), the United States did not have a central bank responsible for handling banking panics. The NYCH and similar organizations in cities across the country acted as private lenders of last resort, coordinating emergency liquidity assistance amongst its membership during crises.

After the failure of some prominent firms and banks in September 1873, bank runs ensued throughout New York City, unleashing the Panic of 1873 (Anderson, Hachem, and Zhang 2021). The NYCH met on September 20 and unanimously agreed to issue $10 million in clearinghouse loan certificates (CLCs), which were temporary collateralized loans that could be used only to settle clearinghouse balances (Cannon 1910). This was the first of several crises during the National Banking Era in which the NYCH issued CLCs that member banks could use as a temporary substitute for legal tender or specie in settling clearing balances with other members, limiting the use of cash (Anderson, Hachem, and Zhang 2021).

Rather than a direct loan between two member banks, CLCs functioned as a transferrable liability, which every member bank had to accept as a substitute for payment (Moen and Tallman 2013). CLCs essentially transformed the individual member banks of the NYCH into functioning as one mutual financial institution that jointly guaranteed the certificate's repayment. If a bank failed and could not repay its CLCs, the NYCH split the cost among the membership proportionally to their shares of capital and surplus (Gorton and Tallman 2018, 43).

Key Terms

Purpose: "To enable the banks of the [NYCH] to afford such additional assistance to the business community, and also for the purpose of facilitating the settlement of the exchanges between the banks" (OCC 1873)

Launch Dates	Announcement: September 20, 1873
Expiration Dates	Final issuance: November 20, 1873 Final cancellation: January 14, 1874
Legal Authority	Not applicable
Peak Outstanding	$22.41 million
Participants	NYCH member banks
Rate	7%
Collateral	Bills receivable, stocks, bonds, and other securities
Loan Duration	Not applicable
Notable Features	First issuance of CLCs during the National Banking Era; private lender of last resort; first issuance of CLCs by clearinghouses outside New York
Outcomes	Stability restored to the membership of the NYCH, although a long depression followed the panic

The NYCH Loan Committee issued the CLCs to borrowing banks, which deposited collateral (typically commercial paper and loans) with the Loan Committee, similar to a modern triparty repurchase agreement (repo) (Moen and Tallman 2013).[3] The Loan Committee applied at least a 25% haircut on most collateral. US government bonds and gold received close to zero haircut (OCC 1873). A borrowing member bank then used the CLCs as a temporary payment to another member bank (accepting bank). This accepting bank received a 7% interest rate from the borrowing bank for the certificates (Gorton and Tallman 2018, 46).

CLCs operated as "near reserves," as they could be used only within the NYCH membership as a temporary substitute for specie or legal tender for settling clearing balances (Gorton and Tallman 2018, 42). According to Cannon (1910):

> The great value of clearing-house loan certificates lies in the fact that they take the place of money in settlements at the clearing house, and hence save the use of so much actual cash, leaving the amount to be used by the banks in making loans and discounts, and in meeting other obligations.

During the Panic of 1873, the NYCH member banks received $26.57 million of CLCs in total, with a peak outstanding amount of $22.41 million (OCC 1907). At its peak, the ratio of CLCs to average reserves over the previous two years was about 37% (Gorton and Tallman 2016). The NYCH issued its final CLC on November 20 and canceled the last one on January 14, 1874 (OCC 1907). In the aftermath of the panic, the NYCH commissioned a report in November 1873. This report showed a decline in deposits of almost $90 million, or a 38% drop, from the 10 weeks prior to September 6, 1873, to their lowest point during the crisis (NYCH 1873).

In addition to CLC issuance, the NYCH also implemented reserve pooling amongst member banks, suspended convertibility, limited the disclosure of individual member bank balance sheets, guaranteed certified checks issued by members, examined the books of a member bank and three nonmember banks, and supported the purchase of government bonds by the US Treasury Department.

Summary Evaluation

The report commissioned by the NYCH and conducted by certain member bank representatives after the Panic of 1873 congratulates the membership on its response to the panic, stating that "had it been less boldly, promptly or unanimously encountered, the results must have been more disastrous and widespread" (NYCH 1873, 6–7). Despite this contemporaneous assessment, a later review is less generous. An 1884 annual report of the Office of the Comptroller of the Currency (OCC) comments that the NYCH's deployment of CLCs in 1873 was delayed until "after the panic had assumed such proportions that their use and the consequent relief to the banks in settling their balances at the clearing-house could not restore confidence" (OCC 1884). In subsequent crises, for example, in 1884, the deployment of CLCs was quicker than in 1873 (OCC 1884). In 1884, the manager of the NYCH

[3] Member banks in the NYCH had to accept the use of CLCs as a substitute form of payment, which differs from the modern repo market.

noted that the association had acted the very day of the market unrest; in contrast, he said, in 1873 "the banks waited three days, until the crash came" (NYT 1884).

Anderson et al. (2021) analyze the response of the NYCH to the Panic of 1873 using quantitative methods. They find that borrowing and nonborrowing member banks emerged from the panic with cash-to-deposit ratios similar to pre-crisis levels, which implies that the NYCH effectively distributed liquidity.

Their analysis additionally shows that the total amount of cash in the banking system at the onset of the crisis made it impossible to fully reallocate liquidity to completely avoid bank failures. As a result, a private lender of last resort such as the NYCH and its CLCs could not have been the only factor in ending the crisis. Instead, stability was likely restored by a combination of the CLCs, suppression of information about individual banks' balance sheets, reserve pooling, and the partial suspension of deposit convertibility (Anderson, Hachem, and Zhang 2021).

Despite the fact that "the general condition of the banks was good," the Panic of 1873 unleashed a five-year period known at the time as the "Great Depression," although it is now known as the "Long Depression" (Klitgaard and Narron 2016; Wicker 2000, 33). At one point, there was 25% unemployment in New York City, felt especially hard by veterans of the Civil War.

Context: NYCH 1873–1874	
Net deposits of NYCH membership (average of weekly data)	\$200.6 million in 1873 \$229.4 million in 1874
Loans held by NYCH membership (average of weekly data)	\$280 million in 1873 \$281.7 million in 1874
Capital and surplus of NYCH membership (average of weekly data)	\$121.1 million in 1873 \$121.1 million in 1874
Required reserves held by NYCH membership (average of weekly data)	\$50.1 million in 1873 \$58.3 million in 1874
Number of members in the NYCH	59 in 1873 59 in 1874
NYCH clearing transactions (annual)	\$29.8 billion in 1873 \$24.5 billion in 1874
Number of commercial failures	5,183 failures in 1873 5,830 failures in 1874
Total liabilities of commercial failures	\$228.5 million in 1873 \$155.2 million in 1874
Total individual deposits for the United States (excluding savings banks)	\$751.9 million in 1873 \$760.5 million in 1874
Ratio of aggregate CLC issuance to net deposits of NYCH membership	11.6% in 1874
Source: Andrew 1910.	

Key Design Decisions

1. **Purpose: The NYCH issued CLCs to provide liquidity to its membership and allow member banks to continue their lending while still being able to settle their clearing balances.**

According to the Comptroller of the Currency (OCC 1873), the Panic of 1873 started to build on September 8, with the failure of some New York City companies. However, there was little to no media attention dedicated to the slowly building panic (Gorton and Tallman 2018, 27). The closure of Jay Cooke and Co., one of the most prestigious merchant banks, on September 18 shocked the City and unleashed the Panic of 1873 (Wicker 2000, 20). On this day, and intensifying through September 20, depositors rushed to withdraw their funds in a series of bank runs in New York City. By September 20, several prominent banks had failed and the New York Stock Exchange closed for the first time ever for 10 days (OCC 1873).

In this era, banks typically had to liquidate assets to handle withdrawals during a bank run. New York banks invested a significant amount of deposits in the call loan market, which was the main source of funds for the New York Stock Exchange. These loans could be called back on demand by the lender in times of crisis, although this would cause drastic consequences for stock prices and the stock market in general (Anderson, Hachem, and Zhang 2021). On September 12, New York banks had committed $199 million in loans, with 30% in call loans (Sprague 1910, 84).

Instead of forcing member banks to liquidate their assets to process withdrawals and cause deleterious effects to the stock market, the NYCH provided liquidity to member banks through clearinghouse loan certificates (Anderson, Hachem, and Zhang 2021).

2. **Legal Authority: The NYCH was a private institution and faced no explicit legal restrictions against issuing CLCs in 1873; the certified checks it guaranteed were not considered "money" but could have been.**

There has been some controversy over the years regarding the legality of the NYCH's issuance of CLCs during panics (Timberlake 1984). The law during the National Banking Era effectively banned state-chartered banks from issuing their own notes by applying a steep 10% tax, which the CLCs did not pay and which could establish them as illegal.

However, contemporary sources and scholars tend to agree that CLCs used entirely for interbank transactions—such as those issued in 1873, 1884, and 1890—did not break this law because they did not circulate as currency. The National Banking Act of 1864 appears to sanction CLCs that circulated only between banks: "Clearing-house certificates, representing specie or lawful money specifically deposited for the purpose of any clearing-house association, shall be deemed to be lawful money" (National Bank Act of 1864 1864, 13:109). A former clearinghouse chairman, James Cannon, wrote in 1910 that the term "clearing-house certificates" used in the act would refer both to the certificates that clearinghouses issued in normal times, which were backed by specie or legal tender, and to clearinghouse *loan* certificates that they issued in crises, which were backed by securities (Cannon 1910).

Starting in 1893, some clearinghouses issued CLCs in smaller denominations and encouraged their use as currency, raising more directly the question of their legality under the National Banking Act.

Separate from CLCs were certified checks. In 1873, the NYCH guaranteed certified checks that banks issued to depositors in lieu of cash when they had partially suspended the convertibility of deposits, as noted in Key Design Decision No. 3, Part of a Package. Such checks were "quasi-currency" and circulated at a discount to currency (Timberlake 1984). This "currency premium" became a measure of market confidence in banks during crises. Gorton and Tallman (2016) say that certified checks were not considered "money" and were not subject to the 10% tax, but that this was "essentially a fiction."

Suspension of deposit convertibility was also effectively illegal because demand deposit contracts gave depositors the right to withdraw cash any time a bank was open. But those contracts were never legally enforced, as suspension was seen as a necessary tool to calm banking panics at the time (Gorton and Tallman 2018, 181).

Within the institutional framework of the NYCH, members needed to first vote on the provision of CLCs as to "whether the crisis was significant enough to warrant their use" (Gorton and Tallman 2016). For example, the NYCH members unanimously approved the provision for CLCs immediately as the crisis of 1884 unfolded in an emergency meeting on May 14, 1884 (OCC 1884).

3. **Part of a Package: NYCH members pooled their reserves to meet liquidity needs; suppressed reporting of individual banks' balance sheet information to promote market confidence; and announced that certified checks issued by member banks would be marked as "payable through the Clearing House," implicitly recognizing that banks had partially suspended convertibility. The US government also purchased bonds to increase money in circulation.**

Of the five main banking crises of the National Banking Era, the Panic of 1873 is unusual for the measures the NYCH took for the last time (reserve pooling) and for the first time (certifying checks issued by banks). As in most other such panics, the NYCH suppressed information about individual banks and conducted examinations of banks that were troubled.

Reserve Pooling

In 1873, the NYCH implemented a tool that it did not use again in the National Banking Era: reserve pooling. The National Currency Act of 1864 required New York City banks to maintain a minimum reserve ratio of 25%, using the ratio of cash to total public liabilities (Cannon 1910). According to the plan adopted by the NYCH:

> [T]he legal tenders belonging to the associated banks shall be considered and treated as

> a common fund, held for mutual aid and protection, and the committee appointed shall have power to equalize the same by assessment, or otherwise, at their discretion. (OCC 1873)

In effect, this condition created a single pool containing every member bank's cash reserves. In a situation in which a troubled bank faced an extremely low level of reserves, the NYCH could shift reserves from stronger banks to support the weaker bank. Reserve pooling is distinct from the NYCH's temporary lending, as that initiative was optional and contained an interest rate as an incentive to, in effect, lend their surplus reserves (Moen and Tallman 2013). On September 25, the NYCH utilized reserve pooling for the first time during the crisis, and the *New York Times* (NYT 1873d) described this as, "[T]he banks [were] virtually made one solid and compact body." This condition made the structure and actions of the NYCH akin to a proto-central bank. This tool was used prior to the National Banking Era but never utilized again by the NYCH (Moen and Tallman 2013).

According to Sprague (1910, 20–21, 120), reserve pooling was necessary because seven of the largest banks in the NYCH had insufficient reserves to satisfy deposit withdrawal requests from rural banks. These banks paid interest on those deposits. Non-interest-paying banks, which didn't source deposits from out-of-state banks, went along with reserve pooling on the promise that there would be reform after the crisis passed.

> In 1873 the noninterest-paying banks entered into the arrangement in expectation of securing a clearing-house rule against the practice of paying interest on deposits, but their efforts . . . resulted in failure. (Sprague 1910, 120)

Guarantee of Certified Checks Issued by Banks and Suspension of Convertibility

On September 24, the NYCH announced that all checks certified by any bank would be certified as "payable through the Clearing House." This action implicitly recognized that banks had partially suspended cash payments to depositors and were satisfying large withdrawals with certified checks instead. Member banks continued to redeem small deposits in New York and deposits for banks outside New York. This was the first time the NYCH used certified checks in this way (Gorton and Tallman 2016; Timberlake 1984).

It appears that New York banks that suspended convertibility resumed payment on November 1 (OCC 1873).

Suppression of Information

As in other crises during the National Bank Era, the NYCH also suppressed reporting of individual banks' balance sheet information to promote market confidence, as described further in Key Design Decision No. 18, Disclosure, and No. 19, Stigma Strategy.

Examination of Banks' Books

The NYCH did examine the books of one member bank, after its director pleaded for the NYCH to get involved. It does not appear that a report on the bank in question was ever published, and it subsequently failed during the Panic of 1873 (Gorton and Tallman 2016). It was liquidated with no losses to its creditors, and Sprague (1910, 43) reports that "[i]ts failure, therefore, was not one of the serious factors in the situation" as a result of long-standing solvency issues. Additionally, the NYCH examined three nonmember banks during the Panic of 1873 (Gorton and Tallman 2016).

Government Bond Purchases

The US Treasury supported market recovery by purchasing bonds during the crisis. Cannon (1910) notes that, as the first issue of CLCs was made on September 22:

> The amount was fixed at the outset at USD 10,000,000, which, with the announcement that the Government would purchase the same amount of bonds, caused an immediate subsidence of the panic, and in less than three days the most acute stages were over.

Sprague (1910, 42) notes that the government paid a premium for the bonds, so it really injected $13 million. However, he notes that the purchases weren't effective in supporting banks and the stock market because most cash went to savings banks, which hoarded it.

4. Management: The Clearing House Loan Committee managed and monitored the temporary lending provided by the NYCH.

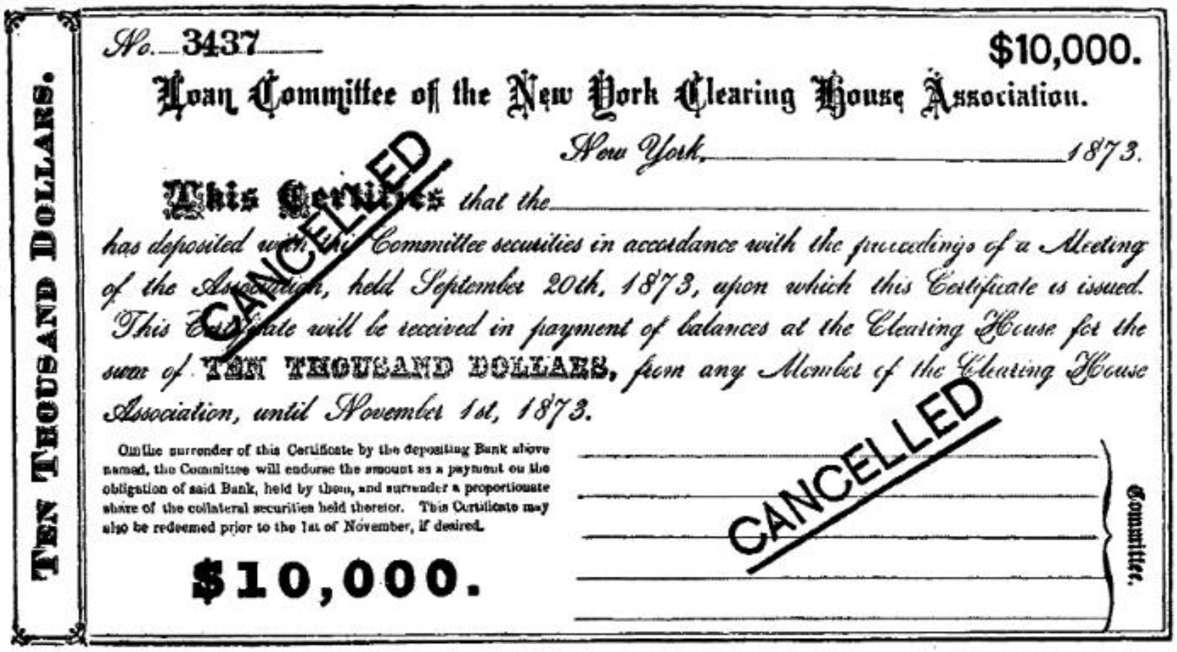
The NYCH assigned the Clearing House Loan Committee, comprising five representatives, to oversee the lending program (Gorton and Tallman 2018, 43; OCC 1873). This committee would "manage and monitor the loans," while keeping track of the value of the committed collateral (Gorton and Tallman 2018, 43). The authorization of the committee required the vote of 75% of the member banks, and it passed unanimously on September 20 (OCC 1873).

Prior to the opening of business during the panic, members banks had to provide a daily statement to the manager of the NYCH with: (1) the amount of loans and discounts; (2) amount of CLCs; (3) amount of US certificates of deposit and legal-tender notes; and (4) amount of deposits, minus special gold deposits (OCC 1873).

5. Administration: The NYCH Loan Committee issued CLCs to borrowing member banks at its discretion, and these banks used the CLCs to settle clearing balances with other member banks.

During crises, the NYCH issued CLCs, which were temporary collateralized loans that could be used only to settle clearinghouse balances (Cannon 1910). In some sense, CLCs resemble Federal Reserve discount window loans, although those come from a standing facility (Moen and Tallman 2013). Member banks would request CLCs by depositing collateral with the Loan Committee, which would decide whether to issue the requested CLCs (OCC 1873). The Loan Committee could issue CLCs in denominations of $5,000 and $10,000 (OCC 1873). See Figure 1 for an official CLC.

Figure 1: Official CLC Used in 1873



No. 3437 $10,000.

Loan Committee of the New York Clearing House Association.

New York, 1873.

This Certifies that the has deposited with the Committee securities in accordance with the proceedings of a Meeting of the Association, held September 20th, 1873, upon which this Certificate is issued. This Certificate will be received in payment of balances at the Clearing House for the sum of TEN THOUSAND DOLLARS, from any Member of the Clearing House Association, until November 1st, 1873.

On the surrender of this Certificate by the depositing Bank above named, the Committee will endorse the amount as a payment on the obligation of said Bank, held by them, and surrender a proportionate share of the collateral securities held therefor. This Certificate may also be redeemed prior to the 1st of November, if desired.

$10,000.

Committee.

TEN THOUSAND DOLLARS.

CANCELLED

CANCELLED

FORM OF CLEARING-HOUSE LOAN CERTIFICATE USED BY NEW YORK CLEARING-HOUSE IN 1873. LATER ISSUES DIFFER FROM THIS ONLY IN THE OMISSION OF THE RESTRICTIVE DATE.

Source: Cannon 1910.

6. **Eligible Participants: Only member banks could access CLCs, and it is unclear if there were solvency tests involved in lending.**

It appears that all 60 member banks could access CLCs, as the initial plan stated that "any bank in the clearing-house association" could receive them (Moen and Tallman 2013; OCC 1873). However, Gorton and Tallman (2018, 44) cannot rule out the possibility that the Clearing House Loan Committee considered member bank solvency in its lending decisions. Both state and national banks could join.

As for who constituted the membership, the NYCH's report in the aftermath of the panic stated:

> Any Bank in the city, worthy of public confidence, may become a regular member of the Clearing House Association, and the Banks which compose it are bound, in duty to themselves and to the public, to withhold the special support of this body from any who cannot submit to, or safely pass through the necessary examination which entitles them to credit. (NYCH 1873, 16)

There is anecdotal evidence from Cannon (1910), who was a leader of the NYCH, that all member banks felt a "patriotic" duty to request CLCs regardless of their expressed need, as a way to project solidarity and unity. However, quantitative research by Moen and Tallman

(2013) contradicts this universal characterization. Of the 60 member banks at the time, only 33 took out CLCs during the Panic of 1873. Recent research shows that all these CLCs taken out by member banks in 1873 were used for settling clearing balances. This shows that no NYCH banks took out CLCs merely to project confidence and unity. Rather, all of the borrowing banks utilized their CLCs in clearing transactions (Anderson, Hachem, and Zhang 2021).

7. Funding Source: CLCs were a transferrable liability issued by the NYCH and guaranteed by the entire membership of the NYCH.

Rather than single loans between two member banks, CLCs were instead a transferable liability.[4] The NYCH issued CLCs and managed the collateral, in a structure similar to a modern tri-party repurchase agreement. To break down the balance sheet composition of CLCs, they counted as assets for the borrowing member banks and as a liability in the form of a loan from the member banks that accepted them for settlement (Moen and Tallman 2013).

There are two integral aspects of CLCs that made them an effective form of liquidity assistance (Gorton and Tallman 2018, 43). First, the adopted plan stated that member banks had to accept CLCs as specie or legal tender replacement for the settlement of balances, thus establishing CLCs as a valid form of payment within the membership (OCC 1873). Second, the NYCH collectively guaranteed the repayment of the CLCs. If a borrowing bank could not repay its fellow member banks, the NYCH paid for them and divided the cost amongst the membership relative to individual members' share of membership capital and surplus (Gorton and Tallman 2018, 43).

The Panic of 1873 put extreme pressure on the reserves of the NYCH membership. On September 20 (the day the NYCH authorized CLCs), the legal tender reserves of member banks totaled $33.8 million. Only four days later, these reserves had declined by over 53% to $15.8 million on September 24. Reserve balances would reach their nadir on October 14 at $5.8 million (Wicker 2000, 32). The reserve pooling measure likely allowed some banks to draw down their reserves if needed, as they could rely on the reserve pooling measure to make up for the deficit during the crisis period.

8. Program Size: The NYCH initially planned to issue $10 million in CLCs, but the peak outstanding eventually reached $22.41 million.

The initial plan adopted by the NYCH on September 20 limited the Loan Committee's issuance of CLCs to $10 million (OCC 1873). However, the NYCH raised this cap to $20 million on September 24 (NYT 1873c). On September 27, NYCH members said they would issue CLCs "to any amount that may be required" and further stated:

> The effect of this action was to inspire the public with the belief that the banks intended to leave no measures untried which would restore confidence and protect the mercantile

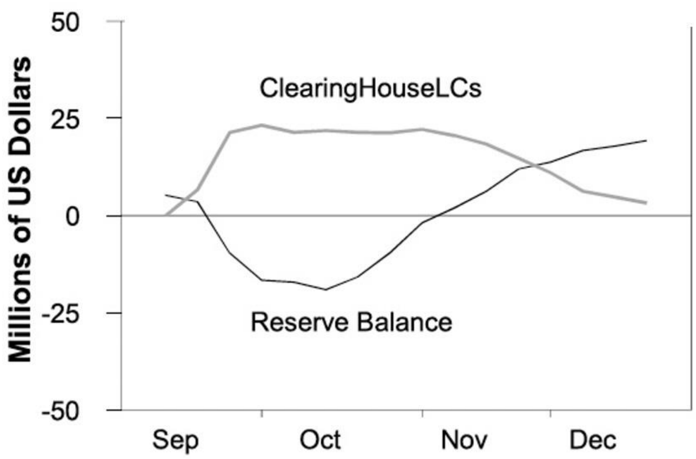
[4] Moen and Tallman (2013) state that "as a transferable liability, [CLCs] implicitly involved a loan from the holding bank to the borrowing bank."

community in their transactions. (NYT 1873e)

In total, the NYCH issued nearly $26.57 million in CLCs, with a peak outstanding of $22.41 million (OCC 1907). It is unclear when or how the NYCH further increased the limit on issuance by the Loan Committee above $20 million.

The NYCH issued $22 million in CLCs from September 22–29, $3.2 million in October, and $1.3 million from November 1–20 (OCC 1907). See Figure 2 for a depiction of outstanding CLC usage and the reserve balance of NYCH member banks relative to the 25% required reserve ratio. As this chart shows, NYCH member banks ignored the 25% required reserve ratio during the Panic of 1873, while banks began canceling CLCs only once the reserve balance had recovered.

Figure 2: NYCH Reserve Balance versus Outstanding CLCs, 1873



Source: Gorton and Tallman 2018, 47.

9. Individual Participation Limits: There did not appear to be defined individual participation limits.

Research could not determine if there were limits on the amount of CLCs that individual NYCH member banks could borrow beyond the amount of securities they had available to serve as collateral. It appears that some banks did apply for more CLCs than they received.

10. Rate Charged: The member banks that accepted the CLCs received a 7% interest rate from the borrowing banks.

Although member banks had to accept CLCs as a replacement for clearing balances, they received a 7% per annum interest rate for their participation, which was paid by the borrowing bank. The initial plan adopted by the NYCH called for the interest to be paid out on the earlier of the CLCs' redemption or November 1, 1873, when the CLCs were supposed to expire (OCC 1873). However, the NYCH issued more CLCs beyond the initial $10 million without an expiry date, so it is likely that the interest was due whenever the CLCs were redeemed or canceled. Beyond the overall interest rate, there was an additional 0.25% fee charged for the administration of the CLCs (NYT 1873a).

According to Gorton and Tallman (2018, 46), the interest rates charged by the NYCH during the National Banking Era were consistent with market rates for commercial paper, although the significant haircuts added to this cost. According to Wicker (2000, 27), the rates on prime commercial paper in the three months prior to September hovered around 7%, before jumping to 12.5% in September and peaking in October at 17%.

11. Eligible Collateral: The NYCH required borrowing banks to deposit collateral with the Loan Committee, which ranged from bills receivable to commercial loans and received a steep 25% minimum haircut.

The plan adopted by the NYCH stated that member banks could "deposit . . . an amount of its bills receivable, or other securities to be approved by [the Loan Committee]" (OCC 1873). A report in 1907 by the Office of the Comptroller of the Currency (OCC 1907) included information submitted by the manager of the NYCH stating that the NYCH accepted "[b]ills receivable, stocks, bonds, and other securities" during the Panic of 1873. According to retrospective studies such as Gorton and Tallman (2018, 43–44), the predominant collateral utilized for CLCs was commercial paper or commercial loans with short maturities.

The initial plan stated that the amount of CLCs granted to borrowing banks should not be "in excess of seventy-five per cent of the securities or bills receivable so deposited" (OCC 1873). This was, in effect, a haircut on collateral of at least 25%. However, CLCs could be issued upon the par value of the collateral if it was "United States stocks" (likely high-quality government bonds) or gold certificates (OCC 1873).

The Loan Committee could exchange the deposited collateral for other acceptable securities at the request of the borrowing bank. More important, it had the discretionary power to request additional collateral, whether by the previously mentioned exchange or an increased amount (OCC 1873). When member banks canceled CLCs, the Loan Committee returned their collateral to them.

12. Loan Duration: The first issuance of CLCs contained an expiry date of November 1, 1873, but later issuances removed any set end date.

CLCs did not exactly contain a maturity, as they were transferrable liabilities rather than direct loans (Moen and Tallman 2013). The NYCH did initially set an expiry date for CLCs, which is covered in Key Design Decision No. 20, Exit Strategy.

13. Other Conditions: If member banks did not accept CLCs as substitutes, they could be expelled, temporarily or permanently, from the NYCH.

Member banks highly valued their membership in the NYCH and risked suspension or expulsion if they ignored any of the rules (Gorton and Tallman 2018, 21–22). A few days into the crisis (September 24), the NYCH membership met and unanimously adopted a resolution stating, "any member [not fully participating in the CLC arrangement] shall be reported to the manager of the Clearing-house, who shall forthwith expel him from this body" (NYT 1873c). The NYCH suspended Chemical National Bank in 1873 for three months when it refused to accept CLCs as payment (Gorton and Tallman 2016).

14. Impact on Monetary Policy Transmission: The NYCH was a private institution that reallocated liquidity amongst its members and did not have a role in monetary policy.

Since the NYCH was a private institution at the time, its actions during the Panic of 1873 did not have any impact on monetary policy transmission as they were an internal division and reallocation of liquidity.

15. Other Options: The NYCH declined requests from the New York Stock Exchange to guarantee intraday credit in the stock market and to commit not to call any brokers' loans for 10 days.

According to Sprague, the reason the stock exchange had to close on September 20 was that, because of the tightness of money during the panic, banks were unable to continue to provide the extraordinary intraday credit that the market had come to depend upon for its transactions (Sprague 1910, 38–40). Certain banks gave stockbrokers large intraday "overdrafts" to allow them to purchase securities on behalf of their clients, with the understanding that the broker would deposit sufficient certified checks from clients by 3pm to repay their banks. The amount of credit could be 10 or 20 times a broker's deposits. Congress passed a law forbidding national banks from conducting this activity in 1882 (Sprague 1910, 104).

On September 24, 1873, the New York Stock Exchange asked the NYCH to guarantee the payment of these overdrafts to allow the market to reopen. It also asked for a 10-day moratorium on collecting call loans. The NYCH committee declined, stating:

> . . . the suggestions and modes of relief proposed seem to your Committee to look too exclusively to the convenience and safety of the Stock Exchange without apparently comprehending the extent of the dangers and inconveniences to which a compliance would involve the Associated Banks, in all probability. (NYT 1873f)

16. Similar Programs in Other Countries: Since the NYCH membership included only New York banks, the Philadelphia clearinghouse implemented its own CLC program.

The NYCH was not the only clearinghouse in the country. Many other cities had clearinghouses, but the NYCH clearly had the most power and impact due to the size and stature of its member banks.

The Panic of 1873 was the first time other cities issued CLCs. Cannon (1910) lists Boston, Philadelphia, Baltimore, Cincinnati, St. Louis, and New Orleans. Wicker (2000, 23) also mentions Richmond. In 1873, the clearinghouse in Philadelphia issued similar CLCs in the amount of $6.8 million (OCC 1907).

17. Communication: The NYCH publicized its decision to issue CLCs in the local newspapers and held a public meeting to discuss the plan.

The NYCH publicly announced its decision to issue CLCs and ensured that it became widely known and publicized (Gorton and Tallman 2018, 44). The *New York Times* (NYT 1873a) published the entire adopted plan of the NYCH on September 21. Later that night, as the *New York Times* reported the next day, the president of the NYCH appeared at a prominent hotel and answered questions about the crisis. He spoke forcefully about the stability of the NYCH membership and told the doubters that they were likely "ignorant of what they talked about" (NYT 1873b). He continued on to say, "People who haven't a cent come here and put questions for the express purpose of damaging the credit of old-established firms" (NYT 1873b). In conclusion, he mentioned that the NYCH could increase the amount of CLCs from $10 million to $20 million, which it did a few days later.

18. Disclosure: The NYCH never publicized member-specific CLC usage statistics, to prevent stigma.

The NYCH refused to publicize both the individual member banks that utilized CLCs and how many they received (Gorton and Tallman 2018, 44).

However, it seems that banks could themselves announce their own CLC usage. Fourth National Bank, one of the six largest banks in New York, announced in the *New York Times* (NYT 1873d) on September 26 that it "paid into the [NYCH] USD 800,000 worth of [CLCs] and received USD 800,000 in legal tenders." The *New York Times* quoted the cashier of the bank praising the CLC program for allowing it to "afford much more accommodation to its customers than it might have otherwise done."

As the public could not assess the condition of banks during the Panic of 1873, the OCC issued two extra calls for all national banks to report their condition on October 13 and November 1. The need to specifically request this information from banks implies that government regulators were also unsure of the actual conditions of many banks without taking additional disclosure measures. Although this data was not broken down to the individual bank level, the OCC utilized this data after the crisis in its 1873 Annual Report to analyze the panic (OCC 1873).

19. Stigma Strategy: The NYCH suspended publication of weekly balance sheet information about individual banks and did not publicize individual CLC usage, despite widespread attempts by the public to determine this information.

As in other crises, the NYCH suspended publication of any regular balance sheet information about individual banks. The suspension lasted more than two months. The NYCH also did not publicize individual CLC usage. This was due to a fear of stigma, as external observers would note potentially weak member banks and exacerbate a bank run (Gorton and Tallman 2018, 44). Cannon (1910) notes:

> Attempts on the part of the business community were made in vain to discover what banks had taken out certificates, but such information was very wisely withheld. For more than two months, covering the worst period of the panic, no weekly statements of their condition were made to the clearing house by the banks, the object being to prevent a general knowledge of the weak condition of some of the members, which condition, if disclosed, would invite runs upon them.

20. Exit Strategy: The first issuance of CLCs during the Panic of 1873 expired on November 1 as a set exit strategy, but later issuances did not carry an expiration date.

The first issuance of CLCs during the Panic of 1873 had an end date of November 1, 1873. However, it appears that later issues of CLCs did not have a set end date (Cannon 1910). The interest rate on CLCs likely served as a natural exit strategy, as they were reasonable during the crisis period but became costly as market financing became readily available (Gorton and Tallman 2018, 46).

All of the CLCs issued in 1873 by the NYCH were redeemed and canceled within four months of the first issuance (OCC 1907). The last CLCs were redeemed on January 14, 1874 (Cannon 1910).

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