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"Too-big-to-fail" is consistent with policies followed by private bank clearing houses during financial crises in the U.S. National Banking Era prior to the existence of the Federal Reserve System. Private bank clearing houses provided emergency lending to member banks during financial crises. This behavior strongly suggests that "too-big-to-fail" is not the problem causing modern crises. Rather, it is a reasonable response to the threat posed to large banks by the vulnerability of short-term debt to runs.

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I. Introduction

"Too-big-to-fail" (TBTF) is a term coined by Congressman Stewart McKinney in reference to the 1984 rescue of Continental Illinois Bank.[1] FDIC Chairman William Isaac and Fed Chairman Paul Volcker argued that the failure of Continental would have led to other bank runs.[2] Continental Illinois was the largest bank failure in U.S. history prior to the financial crisis of 2007-2008. In the years since, it has been argued that large banks believe they are TBTF, leading them to take excessively risky actions, possibly causing or contributing to the financial crisis of 2007-2008.

Evidence that large banks are the beneficiaries of implicit TBTF government policies and become riskier as a result has been hard to find. Beck, Demirgüç-Kunt and Levine (2006) study 69 countries from 1980 to 1997; controlling for differences in bank regulations, national institutions affecting completion, and macroeconomic conditions, they find that more concentrated banking systems are less likely to have financial crises.[3] Ahmed, Anderson and Zarutskie (2015) find that bank CDS spreads are no more sensitive to size than are non-financial firms. Nevertheless, TBTF remains controversial.

During the U.S. National Banking Era, prior to the existence of the Federal Reserve System and deposit insurance, private bank clearing houses provided emergency

[1] See the 1984 Congressional hearing "Inquiry into Continental Illinois Corp. and Continental Illinois National Bank," p. 300.
[2] See Kaufman (2004) for details.
[3] See also Evrensel (2008).

lending facilities and assisted member banks when they needed help.[4] An editorial in *Bankers' Magazine* of August 1901 explained the logic for this:

"If a bank possesses good assets and is merely temporarily embarrassed because of of difficulty in immediate liquidation, the clearing-house association frequently comes to its its assistance. In fact, it would usually do so, because it is good policy of the association to to prevent the failure of any important member. Such a failure tries the weak points of all the banks. (P. 162, vol. LXIII, no. 2)[5]

We document this lender-of-last-resort role, a TBTF policy privately adopted during National Banking Era crises. The revealed preference of the clearing house to assist member banks during crises strongly suggests that TBTF per se is not the problem causing crises. In the pre-Fed Era, bailing out large, interconnected banks was a reasonable response to the vulnerability of short-term debt to runs that could threaten large banks and thereby the entire banking system.

II. The New York City Clearing House Association

The New York Clearing House Association was founded on June 6, 1854, as a means to clear payments efficiently, especially in large cities.[6]

[4] On the emergency liquidity facilities of clearing houses during crises, see Moen and Tallman (2015).
[5] The quote goes further by stating: "But, if the clearing house committee on examination of the assets, finds no basis of security for the necessary assistance, and therefore refuses to grant it, it would be unwise for any individual to take the risk refused by the clearing house." (Banker's Magazine 1901, P. 162,vol LXIII, no. 2)
[6] Gibbons (1859, p. 296 ff) describes the establishment of the New York Clearing House, On U.S. clearing houses generally, see Gibbons (1859), Squire (1888), Curtis (1898), Bolles (1903), Cannon (1910a), Timberlake (1984), and Gorton (1985), and Gorton and Huang (2006) for theory.

The private association was the center of the U.S. banking system during the National Banking Era. Immediately prior to the Panic of 1873, seven of the 50 New York City banks held between 70 and 80 percent of the country's bank deposits (net banker balances) (Sprague 1910, p. 17). Sprague (1910, 15) writes: "These 7 banks were directly responsible for the satisfactory working of the credit machinery of the country...."[7]

III. Bank Failure and Clearing House Help

Twelve national banks failed in New York City during the National Banking Era (U.S. Comptroller of the Currency 1920 Annual Report, p. 56 ff.).

We cite in the text statistics on banks that failed and banks that were assisted by the clearing house with data from the U.S. Comptroller of the Currency Call Reports on Condition and Income. For the clearing house we aggregate the data for all member banks for that year.[8] The data are from some time prior to the date a bank failed. The failure date is the date a receiver was appointed, and the bank may look substantially different by that time, so we compare to the prior data.

We have the mean, median and standard deviation of clearing house total assets. We examine proxy measures of the interconnectedness of member banks, which we measure in two ways: (1) the amount due to other banks plus the amount due from other banks (bank relative size in the interbank market); and (2) the amount due to other banks

[7] Sprague (1910, 126), citing Annual Reports of the Comptroller of the Currency for 1889, 1890 and 1891, says that of 3,438 national banks in 1890, all but three drew drafts on banks in New York City, and the total amount of the drafts was 61.3 percent of all drafts drawn on banks in the U.S.
[8] We identified New York Clearing House member banks based on *The Bankers Magazine*, *Commercial & Financial Chronicle*, Bailey (1890).

minus the amount due from other banks (bank's net risk exposure as a counterparty). The clearing house mean is consistently larger than the median, indicating positive skew in the the measures. This arises largely because a handful of banks (around six) were significantly significantly larger than their clearing house peers (as noted by Sprague above) and holds as well as well for the standard deviation. These banks held roughly forty percent of total clearing house member assets.

A. Failure and Assistance -- Non-Crisis

When banks failed in non-panic times, they were typically much smaller and less interconnected than the average clearing house member bank. The first failure, Croton National Bank, took place on 10/1/1867. Croton's total assets were $2.5 million (average: $7.8 million); the bank was not significantly interconnected with other banks. The Seventh National Bank failed on 6/27/1901. The Seventh was small in total assets and had smaller interbank balances than the average clearing house member. The bank received no aid from the clearing house.[9]

Ocean National Bank, which failed on 12/13/1871, was a fairly large bank. Though the clearing house advanced loans when Ocean's troubles began (see *New York Times*, December 19, 1871, p. 2), Ocean was expelled from the clearing house prior to its failure.[10]

B. Assistance during Crises

[9] See *New York Times*, June 28, 1901, p.3.
[10] See New York Tribune, Dec. 15, 1871, p. 1 regarding clearing house suspicion of Ocean National Bank activities.

The clearing house's policy during crises was to aid large, interconnected member banks, but to let small banks fail, whether or not they were members. The actions of contemporary bankers indicate that both TBTF and interconnectedness were important to the decision.

1873: During the Panic of 1873, two clearing house members failed -- the National Bank and the National Bank of the Commonwealth. Atlantic was small. Commonwealth had total assets of $7.6 million (average: $8.4 million)[11] but was less interconnected than average (less than $1 million versus $2 million for the clearing house average). Commonwealth appealed to the clearing house for aid, but it was not given.[12]

1884: During the Panic of 1884 the Metropolitan National Bank was forced to close temporarily on May 14, 1884. Among the large, New York City correspondent banks, Metropolitan held the 6th highest concentration of banker balances.[13] Sprague (1910), p. 115 emphasizes the importance of its interconnectedness: "… nearly two-thirds of the total deposits of the Metropolitan National Bank were due to other banks." The *New York Times* May 15, 1884, p. 1, noted: "The bank is the clearing-house of a large number of country banks, whose funds are now locked up here, and unless the Metropolitan resumes at once there is no doubt that many of its correspondents will be

[11] The Atlantic Bank was expelled from the clearing house on April 28, 1873, and subsequently failed September 22, 1873 in the midst of the Crisis of 1873. See Clearing House Committee Minutes, Oct. 1, 1873 and the New York Times, April 28, 1873, p. 5.

[12] The settlement of the Bank's financial liabilities was straightforward. Subsequently, the receiver announced "…that he will pay the depositors in full…" (*New York Times*, Nov 18, 1874, p. 8). However, Commonwealth's ex-president, George Ellis, was arrested for embezzling. (NYT, July 2, 1874, p. 8).

[13] Annual Report of the Comptroller of the Currency, 1883. Metropolitan National held over twice the average sum of due tos and due froms- ($8 million versus $3 million average) – and similarly for net due tos—($5.5 million versus $2.3 million).

forced to suspend, so that the effect of this failure will be widely and disastrously felt throughout the country."

The clearing house, acutely aware of rumored troubles at Metropolitan, sent examiners to examiners to the bank. It was noted that "a committee of examination" (*Commercial and Financial Chronicle*, December 6, 1884, p. 634) deemed that Metropolitan had sufficient assets assets in good condition to warrant aid in the form of clearing house loan certificates.

NYTimes May 16, 1884, p. 1: "The resumption of business, at noon, by the Metropolitan Bank helped restore confidence, and the practical guarantee, by the Clearing-house Association, of the stability of all banks, exercised very reassuring influence." Providing liquidity to Metropolitan National Bank quelled panic conditions, and yet the bank's fate was largely determined by the withdrawal volume in the two weeks after the initial suspension. From May 17th to 31st deposits fell from $7.4 to $1.8 million. The Metropolitan National Bank voluntarily liquidated on November 18, 1884, its failure associated with no strife in the financial markets. From today's perspective, the liquidation might look like a model for an orderly resolution.

1890: On Tuesday, Nov. 11, 1890, three banks required immediate assistance from the clearing house. On Wednesday, November 12, 1890, it issued $1,495,000 of loan certificates: $900,000 to the Bank of North America, $500,000 to the Mechanics and Traders' National Bank, and $95,000 to the North River State Bank (*New York Times*, November 13, p. 1). The financial problems at these banks were apparent, and direct aid from the New York Clearing House with the explicit publication of the loan amounts was taken as a positive step.

1907: Three Clearing House member banks were examined during the Panic of 1907. The largest was the Mercantile National Bank.[14] The day after the clearing house announced that the Mercantile National Bank was found solvent, the *New York Times*, October 19, 1907, p. 1 stated: “The Clearing House Committee met yesterday morning and formally voted to extend to the Mercantile any assistance which it may need.”[15]

The *New York Times* reported on October 19, 1907 that: “The knowledge that the Clearing House stepped in to guarantee the solvency of the bank proved a great relief to the financial community” (p. 1). The issuance of clearing house loan certificates was delayed until October 26, 1907, but the loans to the Mercantile National Bank indicate that the New York Clearing House was intent on addressing the immediate problem at hand.

IV. Discussion

The New York Clearing House constitution said nothing about bailing out member banks during crises. Nevertheless, the Clearing House engaged in bailouts of member banks that could have been allowed to fail. Member banks recognized that during a panic they were “...involuntarily compelled to make common cause with every other member in the risk attending any practical expedient for general relief...” (The Clearing House Special Committee of Five, June 16, 1884, Clearing House Committee

[14] Mercantile National Bank had total assets of $24 million, about the median size of clearing house member banks and net due to banks of $4 million near the clearing house average of $5.8 million.

[15] The loans were actually clearing house loans, which were like emergency loans from the clearing house (as opposed to clearing house loan certificates). The loans were non-transferable, but were changed to clearing house loan certificates after the crisis took hold.

Minutes, 1878-1885, p. 158). Clearing houses bailouts likely averted larger crises (Bluedorn and Park, forthcoming, p. 1)

Privately orchestrated bailouts also occurred during the financial crisis of 2007-2008. 2008. Sponsors of money market funds bailed out their funds (see McCabe (2015)) and sponsors sponsors of credit card securitizations bailed out their special purpose vehicles (see Robertson (2015)). This is consistent with the evidence of Gorton and Souleles (2006) that the spreads of credit card asset-backed securities at issuance implicitly price the risk of the sponsor in addition to the underlying risk of the credit card receivables. All these bailouts were extra-contractual.

Private bail outs of large, interconnected banks was a response to the vulnerability of short-term debt to runs that could unnecessarily threaten large banks and thereby the entire banking system. The logic of modern bailouts is the same.

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