

# **The Strength of a Weak Institution: Clearing House, Federal Reserve, and the Survival of Commercial Banks in Manhattan, 1840-1980**

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## **ABSTRACT**

This paper compares the function of public vs. private institutions and studies conditions that influence their effectiveness. We use the population of commercial banks in Manhattan from 1840 to 1980 and investigate the impact of banks' participation in the New York Clearing House Association, an industry-level cooperative arrangement, and the New York Federal Reserve Bank, the governmental regulatory institution, on their failure rates. We find that banks' participation in the private institution reduced their failure rates more than did participation in the public institution. The effectiveness of the private institution hinges on its nature as a local organization that includes a relatively small number of homogeneous and densely-connected banks. Localism enables strong monitoring and enforcement mechanisms that are critical to solve the problem of collective action. In contrast, the governmental regulation enlarges the geographical scope of participation, adopts standardized procedures, and introduces regulatory agencies, which in fact loosen monitoring and create an opportunity for banks to be more risk-taking. But the upside of the public institution is its 'public' nature, and we find banks that were excluded from the private institutions were better off under the regime of government regulation.

## **INTRODUCTION**

Government regulation and voluntary collective action are two competing solutions to the problem of the commons. Government regulation falls under the category of public institutions that rely on the state's authority to regulate social actors' behaviors whereas voluntary collective action belongs to a set of private institutions that are voluntarily made and maintained by organizations or individuals (Ingram and Clay, 2000). Supporters of government regulation argue that since the state has a monopoly on the use of force, public institutions serve as the fundamental mechanisms to enable credible commitment and overcome the free-rider problem.

Proponents of private institutions, however, not only disregard public institutions as the only way to solve a commons dilemma, but may also attack its efficacy. From a purely utilitarian perspective, public regulation may have disadvantages compared to various types of small-scale, local cooperative arrangements because of motivational and informational reasons (Ostrom, et al. 2002; Araral, 2009). The motivation argument suggests that since community participants have a direct interest in the commons, they are more likely to have strong incentives to manage the commons well than government bureaucrats. The information reason, on the other hand, argues that community participants are more likely to have lower costs of obtaining,

assessing, and sharing information about the commons than government bureaucrats. Supporters of these arguments cite numerous real life cases of successfully organized private institutions ranging from the early claim clubs, cattlemen's associations, and mining districts formed to protect property rights in the American West in the nineteenth century (Clay, 1997) to recent private institutions that have emerged as solutions to environmental and agricultural problems (Ostrom, 1991; King and Lenox, 2000; Dayton-Johnson, 2000; Barnett and King, 2009; Araral, 2009).

Despite the ubiquity of private institutions, challenges to their success remain. Since participation in private institutions is voluntary, how do they overcome the collective action problems, both in terms of creation of the institution and in terms of its continued? What are the mechanisms that enable the participants of the numerous and various types of private cooperative arrangements to make credible commitment? We may also wonder why, if these private cooperative arrangements have been successful, public institutions have ever been needed. Answering these questions necessitates a comparison of the costs and conditions of effectiveness for the two institutional forms. We address these questions by studying the population of commercial banks in Manhattan from 1840 to 1980 and investigating the impact of banks' participation in the New York Clearing House Association, an industry-level cooperative arrangement, and the New York Federal Reserve Bank, the governmental regulatory institution, on their failure rates.

### **Empirical Context: the American Banking Industry**

Scholars have classified the industry's history into four eras: (1) the Era of the First and Second Bank of the United States (1791-1836), (2) the Free Banking Era (1837-1862), (3) National Banking Era (1863-1913), and (4) the Federal Reserve Era (1913- ). Our paper examines the institutional changes from the National Banking Era to the Federal Reserve Era. The National Banking Era started from 1863 after the National Banking Act was passed. The Act established a dual banking system in which the federal and the state governments competed for authority in chartering and regulating banks. To obtain control over bank chartering, state governments required much lower starting capital and reserves. These low entry barriers resulted in the proliferation of small banks.

Another important consequence of the passage of the National Banking Act is the prohibition of branching. Section 8 of the National Banking Act required that a national bank's "usual business shall be transacted at an office or banking house located in the place specified in its organization certificate", which was interpreted as a prohibition on branch banking by the second Controller of the Currency, Freeman Clarke (White, 1983). The prohibition of branching made banks essentially local businesses and cities the places with high concentrations of local banks. The geographical constraints ruled out an intra-organizational solution to prevent bank failures through diversifying asset portfolios and branching in different geographies. But the local nature of banks also created conditions that facilitated interbank cooperation.

### **The Rise of Clearing Houses as a Private Institution**

Coordinated responses are of critical importance in bank panics, because the banking industry is subject to a commons problem in market confidence (Calomiris and Gorton, 1991). Banks are professionally managed, and ordinary depositors cannot easily judge the health of an

individual bank. Under such information asymmetry, depositors use information revealed about certain banks to evaluate the soundness of others. As a result, negative investment news about a few banks or some isolated bank failures can lead depositors to worry about the security of their own money and result in runs to many banks at the same time. The spill-over effect is particularly strong among banks within the same geographical region as local banks tend to have similar investment structures. Thus, local banks, sharing a commons of market confidence, are motivated to collectively avoid and lessen bank panics.

The cooperative arrangement through which banks initially united their actions was the clearing house. The first clearing house in the country was the New York Clearing House Association (NYCHA) founded in 1853 by 52 banks in Manhattan (except one in Brooklyn). The NYCHA was originally designed as a labor saving device to improve the interbank check-clearing process. Although the NYCHA was founded as a device to simplify and facilitate settlements of balances among banks, local bankers soon recognized that it could also serve as a medium to solve the market confidence problem.

During the Panic of 1857, the NYCHA organized an emergent loan committee. The loan committee issued fixed-interests loan certificates, which could be borrowed by a financially stressed member if backed by collateral. Member banks could use the loan certificates in the clearing process in place of currency, freeing cash to satisfy depositors' demands. In this way, loan certificates served as a medium to transfer cash from banks in surplus to financially stressed banks so that stressed members could survive bank panics. Loan certificates commonly had a life span of one to three months. They were joint obligations of all the NYCHA member banks. In this way, the NYCHA served as a lender of last resort (Gorton and Huang 2002), and NYCHA members jointly assumed the risk that an individual bank would fail.

Since their debut in 1860, the loan certificates were issued for subsequent panics until 1914 and became prominent due to their successful employment in stemming the tide of bank panics. Before the Federal Reserve was created in 1914, the NYCHA issued loan certificates eight times and not a dollar was lost (Gilpin and Wallace, 1905). The NYCHA's practices were imitated by clearing houses in other cities of the country. The only recorded loss was in Philadelphia and the amount was negligible compared the issued volume of loan certificates. As a result of the cooperative efforts from the clearing house, we expect the NYCHA member banks to have lower failure rates because of the reduced risk of bank runs.

*Hypothesis 1: The NYCHA member banks were less likely to fail.*

### **The Strength of the Clearing House**

The success of the NYCHA in organizing cooperative arrangements to enhance members' mutual welfare is against the prediction of many theorists of collective action. As Olsen (1965: 2; emphasis in original) famously pointed out, "unless the number of individuals is quite small, or unless there is coercion or some other special device to make individuals act in their common interests, *rational, self-interested individuals will not act to achieve their common or group interests* (emphasis is original)." At the heart of the caveat that Olsen (1965) articulated is a monitoring issue. Effective monitoring is critical for the success of collective action because it enables participants of cooperative arrangements to identify those actors who benefit without sharing a proportional share of costs.

The clearing house as a city-based coalition has its unique strength in monitoring and enforcement. First of all, the city-based cooperation enacted by the prohibition of branching ensures a relatively small size of the group. When the group size is small, close monitoring is more feasible. Second, geographical overlap facilitates the development of close local networks (Sorensen and Stuart, 2001). Close local networks, thus, provide an effective sanctioning device against participants' misdeeds (Coleman, 1988; Burt, 1992). Third, geographical overlap facilitates social interactions between participants. Olson stated that "economic incentives are not, to be sure, the only incentives; people are sometimes also motivated by a desire to win prestige, respect, friendship, and other social and psychological objectives" (1965: 60). Frequent interactions between members within a small network nurture the formation of a shared identity and the development of trust among group members (Uzzi, 1996). Common identity and trust are effective mechanisms for direct competitors to recognize their shared interests and engage into cooperative activities (Ingram and Yue, 2008). Fourth, the knowledge and expertise of participants contribute to monitoring and enforcement. Operating within the local banking community, participants of the city clearing house are best informed of the problems of the industry. Last but not least, monitoring and enforcement is free of agency problem. Participants of the city clearing house are direct beneficiaries of the cooperative arrangement and thus have direct incentives to maintain monitoring and enforcement.

*Hypothesis 2: The NYCHA member banks operate more prudentially than other banks.*

*Hypothesis 3: The NYCHA member banks are less likely to fail when internal monitoring is strong.*

## **The Founding of the Federal Reserve**

The panic of 1907 renewed demands for banking and currency reform. It has become increasingly difficult for the city-based clearing houses to maintain market order as the national economy flourished at the end of the nineteenth century. Due to stronger economic bonds that connected different geographies, bank failures were no longer constrained locally but diffused across regions. In addition, accompanying the rapid economic growth at the end of the nineteenth century was the explosion of the bank population. Trust companies and small state banks proliferated during this period. The bank population within cities became larger and more diverse, and these conditions make the monitoring and enforcement mechanisms within the local clearing house increasingly difficult. There was demand for building a national clearing house and concentrating the banking reserves that could be deployed to prevent a panic like the one of 1907 from happening again.

The Federal Reserve Act was passed on December 23, 1913. One principle goal of the founding of the Federal Reserve was to replace the city clearing house as the lender of last resort. The Federal Reserve standardized the function of the loan committee in issuing loan certificates and built a "discount window", through which the Reserve Bank provides liquidity to banks to meet short-term needs stemming from seasonal fluctuations in deposits or unexpected withdrawals. With the passage of the Federal Reserve Act, the NYCHA returned to its initial function to facilitate check clearing between member banks. The Federal Reserve System is composed of 12 regional reserve banks and a central coordinating board of governors. Each reserve bank has its own board of directors, only three out of the nine board members are elected from the banking community and the rest are either elected or appointed to represent the public.

The public nature of the Federal Reserve distinguishes it from the NYCHA. Since the Federal Reserve is governed by the “public interests”, not by elite bankers, all commercial banks and trust companies were entitled to join to the public institution and have access to emergency loans provided by the Federal Reserve. For example, the trust companies had been excluded from the NYCHA for a long time, but they were entitled to the same benefits as other commercial banks under the Federal Reserve. Thus, we expect the banks that were previously excluded from the private institution should be better off after the government takes the responsibility of maintaining market order.

*Hypothesis 4: The non-clearing house member banks are less likely to fail after the Federal Reserve was founded.*

The public regulations loosen monitoring as well. First, the Federal Reserve implements regulation through public administration regulatory agencies, which may have an agency problem as they do not have direct interests in the effectiveness of regulations. Second, like other government regulations, the Federal Reserve regulations lack the flexibility to adjust to complex situations. The institutionalization of the discount window makes emergency loans constantly available to member banks. Third, the Federal Reserve Bank of New York regulates not just city-wide banks, but includes those located in other areas of the New York state, New Jersey, Connecticut, Puerto Rico and the Virgin Islands. The enlarged scale makes it difficult for members in one place to monitor those in other places. Thus, the loosened monitoring and enforcement mechanisms with the system of the Federal Reserve create opportunities for member banks to free-ride on others and provide the incentives for them to engage in risky operations.

*Hypothesis 5: The Federal Reserve member banks are more likely to have risky operation.*

## METHOD

We compiled data on the population of banks in Manhattan from a variety of historical sources. We found bank membership in the NYCHA and Federal Reserve from these institutions themselves. We begin our window of observation in 1840, when the comprehensive banking data were published for the first time, and we end it at the year 1980, when banking deregulation enabled interregional branching, a massive change in the institutional landscape of the industry. There were 375 commercial banks and trust companies and 278 failures in Manhattan from 1840 to 1980. Voluntary mergers are counted as right censored and are not treated as failures.

We use a hazard model to estimate the banks conditional probability of failure in a year. We adopted the *Inverse Probability Treatment Weighting* (IPTW) proportional hazard Cox model to account for the banks’ self-selection into NYCHA/Federal Reserve membership. We coded banks’ participation in the NYCHA and the Federal Reserve as two dummy variables. The bank *operation risk* is measured as a dummy variable that indicate if a bank’s capital adequacy ratio falls under the lowest 5<sup>th</sup> percentile within the population in a year. *Monitoring intensity* is measured as the NYCHA members’ size homogeneity and the density of bank presidents’ club networks, reflecting the ideas that similar banks and those with ties among their

top management teams can exercise more social control over each other. We also controlled for bank size, age, bank population density and its square, the number of bank failures in the previous year and its square, and calendar year.

## **RESULT AND CONCLUSION**

The results support our hypotheses about the private and public institutions. The general comparison of bank failure rates shows that the overall bank failure rate is lower when the NYCHA was the sole market order maintaining institution, even compared with the relative stable period after the Great Depression. The NYCHA members have a significantly lower failure rate and they are less likely to engage into high-risk operations. The NYCHA members' survival advantages are especially strong when the internal monitoring is effective (e.g., high member homogeneity and high network density). The Federal Reserve members have no significant survival advantages, and they are more likely to operate riskily. Nevertheless, the public institution has a broader externality effect -- the non-NYCHA members are less likely to fail after the Federal Reserve becomes the lender of the last resort.

Our paper contributes to the emerging literature about public and private institutions. Although institutional theorists have recognized the different sources of institutions (North, 1990; Ingram and Clay, 2000; Barnett and King, 2009), there is little empirical work that directly compares the effectiveness of the public vs. private institutions and there is even less work that identifies the conditions that constrain each institution's effectiveness. Studying these questions has important policy implications. If private institutions can outperform government regulations under certain conditions, then policy makers should nurture the development of private arrangements as they are typically more cost-efficient. Thus, our results speak to the various on-going debates about the roles of industry self-discipline vs. government regulation in the management of commons.

In particular, our paper has direct implications for current debates about banking regulation. Our results suggest that cooperation among banks themselves is not only an effective way to prevent bank failures but may achieve better monitoring. The idea of cooperation among banks is not an artifact of the nineteenth century political economy, but has emerged as a potential solution in the recent financial crisis. On the day Lehman Brothers announced bankruptcy (Sep., 15, 2008), 10 major U.S. banks immediately organized an emergency loan fund to which each contributes \$7 billion and from which they can tap if they experienced a Lehman Brothers-type crisis of liquidity (New York Times, 2008; PBS Frontline, Feb 17, 2009). This case exemplifies that even today private cooperation may still serve as a substitute for government action. Our results may inform debates as to just when such substitution may be effective or desirable.

## **REFERENCES AVAILABLE FROM THE AUTHORS**