Hereafter: How Crises Shape Communities through Learning and Institutional Legacies

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ABSTRACT

Community differences in organizing capacity have been attributed to cohesion and trust among population members and from population members to organizations, and have been seen as an enduring feature of communities. The experience of a crisis, and the handling of the crisis, can be seen as a test of cohesion that verifies community support of organizations or proves its absence. Using data on two bank panics 14 years apart, we explore whether a crisis event affects whether banks in a community handle the subsequent crisis through community collective action or through executing inter-organizational solutions. We find that banks are less likely to seek community support when a prior financial crisis exposes the lack of trust from community members but are more likely to do so when having the experience of successfully avoiding a looming crisis. Organizational memory carries past experience into the future, and the banks that have directly experienced the absence of community trust prefer an inter-organizational solution for the next financial crisis.

INTRODUCTION

Organizations simultaneously exist in communities of people and communities of organizations. There is a long tradition in organizational theory of examining the effects that different kinds of organizational communities have on organizations, including organizational networks (Sytch, Tatarynowicz and Gulati 2012), organizational fields (Scott 1987), and geographical clusters (Audia, Freeman and Reynolds 2006). Human communities have seen much less study, though it is well established that they vary in cohesion and trust, and that these have significant consequences for organizations. Cohesive communities can form clear identities and generate supportive internal structures in the form of voluntary organizations, and they can also react to external pressures such as commercial or state development plans (Ingram, Yue and Rao 2010; Molotch, Freudenburg and Paulsen 2000). Individuals in cohesive communities are more likely to trust each other in the face of uncertainty (Guseva and Rona-Tas, 2001), and they can form exchange relations that help the founding and survival of organizational forms specific to the communities (Audia et al. 2006; Uzzi 1996). Not only does cohesion and trust of human communities affect everyday actions and outcomes; it can also assist in unusual events such as natural disasters (Kleinberg 2003).

We take these findings as a starting point, and examine the extreme case of reactions to crises. Because a crisis strikes a human community with surprise, imposes a threat to existing structures, and requires community members to respond rapidly, a crisis demonstrates the effects of community cohesion and trust, and the community reaction to the crisis can alter trust among its members. Crises are proving grounds that demonstrate to community participants what they can expect from others in extreme circumstances. Because individual organizations and communities of organizations are important in reacting to crises, we aim our analysis at the intersection of the human and organizational community. Our theory development contributes to recent work on how human communities have institutional legacies in the form of "institutions that persist and affect the community over long periods of time" (Greve and Rao 2014: 27) and affect organizational actions, and to research on how organizations adopt strategiesin order to gain resources and stability when facing environmental threats (Davis, Yoo and Baker 2003; Kono, Palmer, Friedland and Zafonte 1998; Kraatz 1998).

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Research on institutional legacies has emphasized how *human communities build capabilities for collective action* through early organizational foundings (Greve and Rao 2012), voluntary associations (Putnam, Leonardi and Nanetti 1993), and strong intra-community ties (Jha 2013). These capabilities are developed through learning, and are flexible enough to facilitate founding of multiple organizational forms (Greve and Rao 2012). They also have broader effects like generating economic growth (Banerjee and Iyer 2005) and reducing civic unrest (Jha 2013). What has seen little analysis so far are the factors that can potentially weaken institutional legacies, though there is work indicating that contagious disease causes loss of trust that weakens the institutional legacy of a community (Rao and Greve 2016), and prior behaviors violating trust leave an imprint of distrust (Nunn and Wantchekon 2011). It is logical to presume that trust is tested by crises, and failures lead to reduced trust that takes time to rebuild. This means that crises can have long-term effects on communities.

Organizations facing a distrustful human community are not entirely left to fend for themselves because they also form an organizational community that can gain resources and engage in trustful exchange. Organizations are embedded in social networks shaped by exchange ties, shared background of owners and managers, and other informal connections in local and nonlocal elites (D'Aveni 1990; Granovetter 1985; Palmer and Barber 2001; Powell, White, Koput and Owen-Smith 2005). Such embeddedness can be formalized through establishing ties like board interlocks (Burris 2005; Palmer 1983; Yue 2016) and inter-firm alliances (Gulati and Gargiulo 1999; Powell, Koput and Smith-Doerr 1996), though much embeddedness in the local business community is done outside formal channels (Davis and Greve 1997). Organizational networks are in part purposely built for gaining trust and facilitating transactions, but are typically not adapted to rare events such as crises. Thus, formation of new network ties can be accelerated or hindered by a serious crisis (Yue 2016).

Crises can thus affect communities in multiple ways. They can prove the resilience and strengthen trust within the human community and toward organizations, but when they lead to breakdown of trust the damage can be lasting. They can affect trust between the community and the organizations as well as internally in the community (Norris et al. 2008). When lack of trust from the human community has been

exposed, organizations may seek to rebuild it, or they may instead seek a solution within the organizational community by building inter-organizational structures that provide protection against distrust. The evolution of these factors in response to events such as crises has significant interest, and extant work combines interesting findings and scarce studies in a way that invites further exploration (Aldrich 2011; Gotham 2008; Paruchuri and Ingram 2012).

The long-term effect of community crises is an important theoretical question because researchers have long observed that a community's early experience shapes its later political and economic institutions (Greif 1994; Greve and Rao 2012; Putnam et al. 1993). Moreover, it is an important empirical question, because crises are substantial events in their own right (Dutta 2016), and they disrupt normal economic orders and place great stresses on members of a community. Therefore, studying how a crisis shapes reactions of organizations and other community members in coping with the next similar crisis helps local communities to get more efficient and effective solutions for their own problems.

One challenge in documenting the long-term effects of community crises, however, is that institutional forces are often compounded with the economic, social, and political factors both within and between communities, and over time, the nature of the problems that a community faces often changes. Therefore, it is hard to link a community's later response to its early experience in a crisis. Moreover, the compositions of both human and organizational communities also shift over time—people move in and out of communities, and organizations are founded and fail. As a result, memories of the past are better kept in some communities than others, unless formal institutions are established to preserve lessons learned from the past experience.

We examine these issues in the context of bank panics. Bank panics happen when depositors flock to banks to withdraw their savings, thus creating bank runs, and bank runs spread across a wider area. A bank panic can have significant economic consequences nationwide including substantial loss of income (Hoffmann 1956), and the consequences are even more severe in a community experiencing a bank run. Bank runs lead to bank suspensions, which are temporary halts in deposit withdrawals, but also to failure when the bank is unable to turn less liquid assets into cash soon enough and without loss of value. When

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bank failure occurs, depositors who did not manage to withdraw their cash in time will lose a significant portion, and can also expect delays in paying out what can be recovered (Anari, Kolari and Mason 2005). Perhaps more significantly, a bank run is a display of distrust against an organization by community members. Because banks are viable only when mass withdrawals do not occur, they are also a breach of trust among human community members. A bank run thus demonstrates and potentially creates distrust both against banks and among community members. Communities differ in their susceptibility to bank runs during a bank panic (Greve and Kim 2014), and bank differ in their capability to mobilize community help or bank resources to counteract a bank panic (Yue 2015). Prior work on community reactions to bank panics has not documented the long-term effects of this type of community crisis.

We study two adjacent financial crises during the National Banking Era, the Panic of 1893 and the Panic of 1907. The panics of the National Banking Era provide a clean research context that facilitates the identification of the long-term impact of institutional legacy because bank runs have clear targets, and the Unit Banking Law[1] at the time restricted the runs to within a community. Moreover, the homogeneous nature of these crises enables us to directly observe how prior experience shapes banks' coping strategies for a subsequent crisis. Both financial crises were caused by a liquidity problem that can be traced to major defects in the banking system at the time. Because the Panic of 1893 mostly affected banks in the Midwest and the West, these regions' weak inter-banking institutions left banks exposed, and some communities experienced severe bank runs. In the Panic of 1907, bankers in these regions organized two types of collective actions. In one type, bankers sought an inter-organizational solution by organizing mutual lending; in the other, bankers mobilized community collective action by issuing private money to the public as currency substitutes. We examine whether banks in communities where severe bank runs happened during the Panic of 1893 were less likely to seek community support during the Panic of 1907, and whether banks in communities where a large percentage of them had survived the prior bank runs showed a preference for the inter-organizational solution of financial crisis.

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[1] Unit banking refers to a banking system in which banks remain single-unit organizations and are forbidden by law to open branch offices. The National Banking Act passed in 1864 was regarded to prohibit branch banking, and banks in our sample were predominantly single-unit banks.

Our findings reveal an enduring impact of a crisis on how the organizational community copes with later crises. Organizations learn from a crisis that serves as a test of trust within the human community, and the memory of the early crisis directs their future responses. We make four major contributions to the literature. First, our paper contributes to research on the relationship between human community and organizations. While extant studies have focused on documenting horizontal relationships of how communities influence organizations and how organizations shape their communities, we add time dynamics by revealing the role of history in generating path-dependence of a (dis)trustful community-organization relationship. Second, our paper contributes to the studies on institutional legacies. We not only demonstrate the long-term effect of a crisis, but also fill a void in the literature by suggesting organizational learning as one important mechanism that carries institutional legacies over time. Third, our paper contributes to the organizational learning literature. We find that organizations not only learn from their direct experience but also make inference from "near-crisis" experience, and that the institutional building in response to the past experience shapes how they respond to later crises. Finally, we apply a novel methodological approach for showing path dependence and bifurcation of community responses. Before developing the theory, we introduce the bank panics that serve as our study context.

ADJACENT BANK PANICS OF 1893 AND 1907

There were five major financial crises during the National Banking Era (the period between the end of the Civil War and the founding of the Federal Reserve in 1913). Of these, the bank runs during the Panic of 1893 were almost purely driven by consumers (Greve, Kim and Teh 2016), while the next Panic of 1907 was the only financial crisis in which collective actions were widely organized by banks. The National Banking Era was particularly prone to financial crises for two reasons. First, the National Banking Act passed in 1863 required banking notes issued by national banks to be secured by the purchase of federal government bonds. The provision of note issuing against the security of government bonds made the currency supply inelastic, as the U.S. bond collateral limited the volume of note issuance by national banks. Second, the National Banking Act also established federally mandated requirements for banking

reserves. Banks in central reserve cities (i.e., New York City, and after 1887 also Chicago and St. Louis) and reserve cities (i.e., cities with populations over 500,000) were required to keep 25 percent of their notes and deposits in reserves. Reserve city banks were allowed to keep half of their reserves in vault cash while depositing the other half in central reserve city banks. Country banks (i.e., all other national banks) were only required to keep a minimum reserve ratio of 15 percent, and they were also able to deposit 60 percent of the reserves in reserve city or central reserve city banks. These requirements resulted in a pyramid structure with the banking reserves concentrated in New York banks. Thus, any unrest in the New York money market could easily trigger country banks and reserve city banks to withdraw their deposits. Once New York banks took a defensive position by suspending cash payments, interior banks would face an immediate liquidity crisis and become potential targets of bank runs by local depositors.

Both the Panic of 1893 and the Panic of 1907 happened against such a backdrop. A stock market decline was compounded by a run on the gold supply (relative to silver[2]). As concern of the state of the economy worsened, interior banks started to withdraw their deposits from New York and other financial centers. Then New York and other financial centers refused to allow depositors to make large withdrawals. After the interior banks lost access to some of their most liquid assets, the populace of their local communities became concerned about their ability to access to cash and rushed to withdraw their money, and caused bank runs. The areas that were hardest hit were the Midwest and the West. The Panic of 1893 was the most severe financial crisis during the National Banking Era, causing 503 bank suspensions between May and August of that year.

In the Panic of 1907, the failure of a stock speculation in October 1907 financed by several financial institutions in New York City caused depositors to withdraw money from these institutions. The financial unrest in New York prompted banks in the interior of the country to withdraw their deposits. Because the New York banks already faced a liquidity crisis due to the New York bank runs, they

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[2] Due to the long-standing policy of bimetallism, silver and gold were legal tenders that maintained a fixed rate for pegging the value of the U.S. Dollar. Cleveland, the newly inaugurated president that year, convinced the congress to repeal the Sherman Silver Purchase Act of 1890 (which mandated the government to purchase a specific quantity of silver each year). The price of silver consequently plummeted, and many silver mines in the West were closed.

suspended cash payments to interior banks, which quickly resulted in a nationwide restriction of cash payments. Unable to obtain cash from other regions, banks everywhere faced the problem of currency scarcity. Within weeks, the panic spread across the nation as people ran to their local banks to withdraw their funds. This scarcity could not be relieved by increasing currency supplies because the National Banking Act tied note issuance by national banks to the purchase of federal government bonds.

Since the supply of formal banking notes was inelastic and there was no central bank in the U.S. at the time to relieve the situation, banks had learned from the experience in the prior financial crisis, and in some cities they organized collective action to meet depositors' demands for currency. There were two types of collective actions: One type was the *organizational collective action* of mutual lending. Mutual lending was typically coordinated by a local banking clearing house.[3] During the National Banking Era, clearing houses were important private market-governance institutions serving local banks for collecting and clearing checks. During a financial crisis, clearing houses pooled the resources of member banks and served as the lender of last resort by issuing clearinghouse loan certificates (Yue, Luo and Ingram 2013). Financially stressed members of a clearing house could borrow loan certificates by collateralizing their assets and paying interest and use loan certificates in place of currency in the inter-bank clearing process (Gorton and Huang 2003). In this way, loan certificates served as a medium for transferring cash between banks in a city so that they all could survive a bank panic. To make mutual lending work, banks had to overcome a collective action problem because some banks could run high-risk and high-return investments and free-ride on other banks' resources to survive crises. A high level of cohesion within the banking community has been found to be necessary for mutual lending to succeed (Yue et al. 2013). The clearing house loan certificates were first adopted during the Panic of 1857 by the New York Clearing House Association, and had been repeatedly deployed during the National Banking Era by clearing houses throughout the country.

The other type of collective action was the *community collective action* of issuing small denomination currency substitutes. While the organizational collective action involved only banks, the

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[3] In our sample, banks in one city (Council Bluffs, IA) without a local clearing house organized mutual lending in 1907.

small denomination currency substitutes were issued by banks for public circulation. They were in convenient denominations of $5, $10, and $20, and in some places the denomination was as low as 25 cents. Currency substitutes first appeared during the Panic of 1893, and were used by banks in a small number of communities in Georgia to pay their customers. But during the Panic of 1907, currency substitutes were widely adopted for the first time, and the issuing volume was estimated to be more than $250 million (Andrew, 1908). Currency substitutes were the joint responsibility of all banks that participated in the program, so banks faced a similar collective action problem as the one in the organization of mutual lending. Besides the cohesion of the bank community, issuing currency substitutes also required trust and cooperation among non-bank businesses and individuals in the community in order to succeed. Currency substitutes were not legal tender, just slips of paper with a promise of payment from the banks, and they could only be issued if employers would accept them as deposit payments, employees would accept them as wage payments, and store-keepers would accept them as payment for goods. Issuing currency substitutes required ensuring that the community had no broken links in the cycle of exchange, and was thus collective action involving both the community of organizations (all kinds, not just banks) and the human community. Yet, issuing currency substitutes did not require a pre-existing local clearing house, and in many communities this collective action was organized by temporarily associated banks.

Issuing currency substitutes for public circulation was not only a complex collective action; it was also technically illegal. Currency substitutes were not backed by the purchase of government bonds, as required by the National Banking Act. Moreover, the National Banking Act imposed a 10 percent tax on notes issued by state banks, but none of the issuers of these currency substitutes paid the tax. Yet, issuing currency substitutes was not a semi-covert or secretive action by bankers. The government was aware of the currency substitutes, but the lack of public remedies for the currency scarcity problem led it to tolerate and even encourage their issuances (Andrew, 1908). The government's tolerant attitude can be partially explained by the alignment of interests between banks and their community during a financial crisis. A community has a stake in maintaining a healthy currency flow because it is important for keeping the

wheels of the local economy running. However, bankers in some communities faced strong resistance when issuing currency substitutes (Yue, 2015). Thousands of workers went on strike to protest currency substitutes (*Bakersfield Californian*, 1907), and major newspapers published editorials highlighting the danger of allowing banks to issue unsecured notes. Thus, issuing currency substitutes was a form of business collective action that required support from other stakeholders within a community. The Appendix 1 which is provided online describes the geographical distribution of these two types of collective action in the states where bank runs happened in 1893.

THEORY AND HYPOTHESES

Institutional Legacy and Community Trust

A crisis can be defined as a situation that introduces significant risk of harm, and that has a range of potential responses with different efficacy (e.g., Hermann 1963). Whether the crisis will actually lead to adverse consequence is not part of the definition, thus allowing theory on crises that introduce responses and consequences as variables. Studies of crises show that human communities differ significantly in their responses, and have made some progress in predicting community resilience and types of crises that give better responses (Kennedy, Kawachi and Brainerd 1998; Norris et al. 2008). For example, the cohesion and trust of the community enabled Kobe residents to engage in earthquake recovery faster and more effectively than the government could (Aldrich 2011; Olshansky, Johnson and Topping 2006). Here we take the immediate response as a starting point and develop theory on the long-term effects, including the community responses to a subsequent crisis of the same kind.

A crisis presents a human community with a common problem, which it may or may not be able to solve. The solution is a combined effect of the community capacity to solve common problems and random factors, but what is left in the history of the community is the very fact of a solution – or a failure – and this in turn affects the future problem-solving capacity of the community. As Coleman (1961: 574) noted, "Each problem successfully met leaves its residue of sentiments and organization; without these sentiments and organization, future problems could not be solved." Community solutions to common

problems invariably have an element of collective action (e.g., Stevenson and Greenberg 2000; Wright and Schaffer Boudet 2012), which means that the expectations of cooperative behaviors by others are an important factor in deciding whether to start or join initiatives to solve common problems.

Expectations of cooperative behaviors of others are a part of the cultural tool kit that individuals carry (Swidler 1986), and that differs across individuals and communities as a result of learning from experience (Greve and Rao 2012). Cooperation as an expectation of others and oneself is built through socialization from an early age (McFarland and Thomas 2006), and is retained in the community because cooperative behaviors (or conversely, lack of cooperation) are reciprocated and remembered (Molotch et al. 2000). Because one consequence of cooperation is the formation of voluntary organizations, it leaves a trace in communities through economic cooperation (Greve and Rao 2012; Iversen and Soskice 2009; Schneiberg, King and Smith 2008) and social and political structures (Cornwell and Ann Harrison 2004; Schneiberg et al. 2008).

The theory of institutional legacies specifies that human communities retain forms of cooperation and exchange over time along with supporting legal systems, voluntary organizations, and stories that explain and justify them, and that these form a memory that can retain the effects of salient trust-building or trust-destroying events over time (Greve and Rao 2014). Among these mechanisms of retention, the cultural ones are subject to decay over time, especially when migration changes the composition of the community. Legal systems and voluntary organizations have much more persistent effects over time (e.g., La Porta, Lopez-de-Silanes and Shleifer 2008; Schneiberg et al. 2008), so institutional legacies give communities a mixture of persistent and decaying cooperative relations.

When a community is exposed to a crisis, it enters a situation that differs from the gradual build-up of trust and cooperative behaviors that theories typically assume. Crises are by nature unusual events that the community is unprepared for, and the sudden onset means that responses to them rely greatly on already established cooperative relations because there is little time to build new trust and cooperation. At the same time, crises are vivid tests of whether community expectations of cooperation will be realized. Salient behaviors will be retained well in community memory, and especially actions clearly against

social interest such as price gouging in response to shortages (Jerry and Wang 1998) or looting in response to low security (Tierney, Bevc and Kuligowski 2006). Such actions can be remembered even if they are not true, provided they have been told through media or interpersonal networks (Tierney et al. 2006). Conversely, especially pro-social behaviors can also be re-told and retained well. The result is that a crisis may be short in duration, but it exerts long-term effects on expectations of cooperation and trust in the community.

A bank panic is a good example of a crisis that presents communities with a common problem. Individuals hear about bank runs in other communities through word of mouth or newspaper reports, and will face the problem of assessing whether their bank is also at risk, where the risk is of two kinds: risk of not being a financially healthy bank, and risk of having other community members form a run that even a healthy bank cannot resist. There will also be community members seeking to organize against bank runs, such as newspapers writing reassuring comments about local banks (Greve et al. 2016), but such organizing attempts against a run rely on the belief that other community members will follow suit. Individuals form such beliefs from contemporaneous information, which would lead to the conclusion that a bank run is likely if one has occurred in a similar community (Greve et al. 2016), or through recall of whether a run occurred in the same community the last time a bank crisis happened. A bank run in its history will have bankers concluding that depositors have a low level of trust in banks and each other. As depositors doubt the soundness of banks' operation, question the trustworthiness of bankers' actions to cope with a crisis, or believe that, even if they accept currency substitutes, other community members cannot be trusted to make them circulable, bankers should believe that depositors are unlikely to accept bankers' notes if such action was to be organized. Currency substitute issue was typically accompanied by newspaper endorsements by leading merchants and industrialists of a community, indicating that bankers had probed the level of support that they could obtain from their local community before issuing currency substitutes. If they judged that such a program was unlikely to be widely supported by the community, then bankers would not incur the cost of mobilization. The hypothesis is:

Hypothesis 1: Banks in a community that experienced severe bank runs are less likely to issue currency substitutes in a subsequent bank panic.

The converse of this argument is that banks existing in human communities that have been in a crisis but have not experienced a breakdown in trust will see this as confirmation that the members can be trusted in future collective action. This parallels the argument that the experience of successfully forming new community organizations leaves a trace of trust that strengthens the community capability to form additional community organizations (Greve and Rao 2012). However, these arguments differ in important details. First, forming new community organizations also strengthens networks in the community and increases capabilities of forming and operating such organizations. A crisis response may not have these effects, leaving the improvement in trust as the main consequence of resisting a crisis. Second, forming a new organization is a distinct and memorable event in the history of a community. Avoiding damage from a crisis may be less memorable and hence a weaker effect on future interactions in the community.

Keeping these reservations in mind, we can consider whether communities that went through a bank panic with no bank runs would be left with strengthened cohesion and trust. Such effects would require that community members had a strong impression of having had a close call with the crisis, as a result of bank runs occurring in nearby communities, communities with similar types of banks, and communities that are demographically similar. In fact, such perceptions of risk would match the diffusion of a bank panic (Greve et al. 2016), so a simple hypothesis is that communities have greater cohesion and trust if they have been at high risk of a bank run in an earlier crisis, but did not experience a bank run. Such experience is likely to buoy banker confidence in their success of issuing currency substitutes because, first, members of human communities are more likely to trust banks and accept their notes, and, second, they are also more likely to trust other community members to cooperate in the continued exchanges which is crucial for the slips of bank notes to circulate as "real" money. Thus we propose:

Hypothesis 2: Banks in a community that was at risk of a bank run but did not experience one are more likely to do issue currency substitutes in a subsequent bank panic.

Organizational Adaptation to Institutional legacy

Organization communities also learn from a crisis. Organizational learning is best documented through actions of single organizations rather than communities of organizations, and when executing ordinary repeated behaviors rather than responding to crises (e.g., Argote 1999). However, organizations also learn from infrequent and even unique events in their history (Lampel, Shamsie and Shapira 2009), and rare events and their responses become the subject of sense-making and storytelling that embed them into the organizational memory. This can lead to learning in an organizational community when interpretations and conclusions from these events become dispersed through the organizational field, causing learning to also occur in organizations that did not have the same direct experience, and even organizations yet to be founded (Baum and Ingram 1998; Miner, Kim, Holzinger and Haunschild 1999). However, the diffusion of organizational learning is not uniform: organizations are more likely to learn from each other when inter-organizational similarity judgments make their decision makers assess the experience as relevant (Greve et al. 2016; McKendrick 2001; Strang and Soule 1998).

It follows that banks operating in a community that experienced bank runs would have higher awareness of the danger of bank runs, and hence the community of banks would act to organize inter-bank solutions in the next bank run. Due to the lack of deposit insurance at the time, bank runs were particularly contagious because banks within the same community often had business relationships with each other. Depositors faced an information asymmetry problem and could not distinguish between healthy banks and their unhealthy counterparts. Thus, a run on one bank could easily trigger runs on other banks, especially if it led to closure, and banks within the same community had incentives to organize collective action during a financial crisis. Moreover, few banks would have enough financial resources to single-handedly deal with runs because they rarely maintained a high level of liquidity, as doing so was very costly. Even if they could, banks had to suffer heavy losses of liquidating assets in fire sales. Thus, banks were incentivized to seek "inter-bank" solutions rather than solving the problem by themselves. Organizing efforts were specifically strong in communities that experienced a bank run because both banks existing at the time of the run and banks entering the community later would be aware of the breach

in community-bank trust, and would view the human community as less likely to rally around its banks in the next crisis. The suspicion of weak trust of banks and of members in the human community would direct bank attention to inter-organizational solutions to a potential bank panic. Thus we hypothesize:

Hypothesis 3: Banks in a community that experienced severe bank runs are more likely to organize mutual lending in the next bank panic.

Organizational memory of a sudden crisis is important because it adds urgency when the next crisis occurs, which increases the likelihood that the organizations can mobilize to solve it as a common problem. Direct experience generates stronger effects in affecting organizations' behaviors than indirect experience (Levine and Prietula 2012), and direct experience also limits organizations' search for potential solutions as organizational decision makers with direct experience are more likely to believe that things will happen in a certain way and avoid the cost of seeking alternative solutions (Haas and Hansen 2005). Fast-moving events are defining features of crises and collective action to solve common problem can be slowed by the process of evaluating various possibilities, a large proportion of organizations in a community with an organizational memory that gives a sense of urgency will increase the likelihood of finding a solution that aligns with memory (Miner, Bassoff and Moorman 2001). Buildup of capabilities to respond also helps in the use of inter-organizational networks to mobilize collective action.

These considerations suggest that banks that experienced severe runs in their community would be most likely to urgently seek a common solution to the next crisis. Because they also have experienced the community losing trust in its banks, they are likely to seek a solution through the organizational community rather than through mobilizing support in the human community. The urgency of a bank panic would inspire them to use informal networks, such as direct contact among top managers of banks in the community, an approach that also increases the speed of response because managers can make decisions more quickly than boards of directors. This could make banks that were in operation during the run especially effective in applying inter-bank solutions to the next bank panic, leading to the hypothesis:

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Hypothesis 4: Banks in a community that experienced severe bank runs with many banks that existed during the bank runs are more likely to organize mutual lending in the next bank panic.

Organizations learn not only from direct experience and the experience of others, they also build conceptual paradigms to interpret that experience and create rules to guide future behaviors (Levitt and March, 1988). These paradigms are established through shared experience, and become part of the collective knowledge of the organizational community (Kim and Miner 2007). The learning can also take concrete forms, especially when the collective knowledge indicates that organizations have difficulty solving problems on their own and instead should establish collective solutions. It is often overlooked that many organizations engaged in collective actions are formed by businesses rather than by individuals engaged in social movements (Zald, Morrill and Rao 2005). Examples of organizational communities establishing collective solutions include mutual maritime insurers being established by shipping firms (Greve and Rao 2012) and railroads organizing to shape public policy toward mergers (Dobbin 1995; Dobbin and Dowd 1997).

In this context, the establishment of a formal institution that encoded inferences from history into routines for collective action indicates that banks had learned from their experience in a prior financial crisis. Building a clearing house marked a milestone in the route of fighting bank panics, as Gilpin and Wallace (1905: 1) described, "its organization serves as a point of cohesion for the banking interests of a metropolis and exemplifies concerted action by bankers." Building a clearing house after the crisis indicates that banks had reflected on past experience, recognized their common fate, and attempted to address the problem jointly. In the face of severe runs from their communities, banks were likely to conclude that their own collective action provides a viable solution while other social groups within their hosting human communities were less trustworthy. At the time of the Panic of 1893, most cities in the West and Midwest did not have a clearing house, and banks in only two cities in the affected region organized collective action in 1893 (*Report of Loan Committee of the New York Clearing House*, 1893), so we cannot test the effectiveness of the clearing house in organizing collective action during the Panic

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of 1893. Clearinghouse loan certificates were issued mainly in the major cities in the East for inter-bank settlement to deal with the stringency caused by interior banks' cash demands. Thus bankers in the West and Midwest might have seen the potential of adopting mutual lending to alleviate bank runs, and thus imitated banks in the East and established clearinghouses after the financial crisis. Thus, building a new clearing house indicates that bankers recognize their common interest in dealing with financial crisis as well as other domains, and the recognition of the collective fate led bankers more likely to seek "internal" solution during the next financial crisis. Thus we propose:

Hypothesis 5: Banks in a community that built a local clearing house following severe bank runs are more likely to organize mutual lending in the next bank panic.

METHODOLOGY

Data

Our sample is composed of cities in the states where bank runs happened in 1893. Andrew (1908) reported the collective action organized during the Panic of 1907 by bankers in cities with population larger than 25,000. He also reported collective action in some cities with a population below 25,000, but that data was incomplete. So we restrict our sample to the 60 cities with population larger than 25,000.[4] Of these, 7 organized organizational collective action (i.e., clearing house loan certificates), 15 organized community collective action (i.e., currency substitutes), and 19 did both during the Panic of 1907.

Estimation of Collective Action in 1907

We have two *dependent variables* that are dummy variables of whether community or organizational collective action was organized during the Panic of 1907. The organization of one type of collective action may be dependent on that of the other, so we adopt a bivariate probit model to estimate their incidence. The bivariate probit model allows the incidence of the two types of collective action to be correlated by maximizing the likelihood of a bivariate normal distribution. Because currency substitutes

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[4] The states included in our sample are Alabama, California, Colorado, Iowa, Illinois, Indiana, Kansas, Michigan, Minnesota, Missouri, Montana, Nebraska, Ohio, Oregon, Washington, and Wisconsin.

were issued either on the same date as loan certificates or afterwards,[5] if both actions were taken in a city, we include a city's status in organizing mutual lending (organizational collective action) when estimating the issuance of currency substitutes (community collective action). Including the status of mutual lending in the equation to predict the issue of currency substitutes also facilitates the identification of our joint estimation model.

To measure the severity of bank runs, our first _independent variable_ is the _number of banks that suffered depositors' runs in a city_ during the Panic of 1893. In unreported analyses, we also measure the severity of bank runs by using the percentage of banks in a local community that suffered runs in 1893 and generate similar results. Hypothesis 1 predicts that the severity of bank runs has a negative impact on the organization of community collective action, and Hypothesis 3 predicts a positive impact on the incidence of organizational collective action.

To measure the hazard that banks in a community was at risk of a bank run, we obtained hazard rates of a bank run for each city during the time period of the 1893 bank run from Greve et al. (2016). The estimates of their model shows that banks are more at risk of a run when there are bank runs in nearby communities, in banks of the same form (national, state, savings, or commercial), and in communities with similar demographic characteristics. These risk factors are based on theory of how individuals collect information and judge it as relevant and credible, so the model closely mimics the community assessment that it is at risk of a bank run, as Hypothesis 2 models. We calculated the mean _hazard of bank runs_ across banks in the community (we also tried the maximum hazard, with the same results). We test the interaction effect between the actual number of bank runs in a city and the hazard that a bank in the city would experience the bank run in 1893, and Hypothesis 2 predicts a negative coefficient. To measure _banks' experience of the Panic of 1893_, we created a variable to indicate the percentage of banks in 1907 that were founded before 1893. We test the interaction effect between this variable and the number of bank runs in 1893, and Hypothesis 4 predicts a positive coefficient on the incidence of mutual lending.

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[5] Andrew (1908) provided the exact dates when banks in a city first issued the clearing house loan certificates and the small denomination currency substitutes.

We also created a dummy variable to indicate that *a clearing house was built* by local banks after the Panic of 1893, and Hypothesis 5 predicts a positive interaction effect between this variable and the severity of bank runs on the incidence of mutual lending.

We control for variables related to collective action during the Panic of 1907. First, we control for the basic characteristics of a community. One is the *population size*, and the other is the *manufacturing output value per capita*. Because there were no GDP data then, the manufacturing output value per capita controls for the economic condition in each city. Second, we control for variables relating to community internal cohesion because banks may be more likely to mobilize support from other social groups in a homogenous community. We control for the *racial homogeneity*, *religious homogeneity*, the percentage of the population that was *foreign-born*, and the *nationality homogeneity* of the foreign-born population. We also control for economic inequality by using the *Gini Coefficient* of farm size for the county where a city was located. Third, we control for two variables relating to the organization of bankers, since these organizational channels might facilitate bankers' mobilization. One is the *density of banks' board interlocks* in 1907. Researchers have demonstrated that dense interlock ties facilitate business mobilization (Burris 2005; Mizruchi 1992, 1996; Yue 2015). The other is an indicator variable of whether the community had a *banking clearing house*.

Fourth, we control for three variables relating to a community's exposure to the Panic of 1907. Because the Panic of 1907 happened in the harvest season, the farmers' demand for cash to move crops was an important cause of cash stringency for interior banks. We therefore include a variable to measure the percentage of workers employed in the *agriculture industry* in a city. Another is *panic exposure*, which is measured by the number of corresponding ties that banks in a city had with trust companies in New York City that suffered runs. Correspondent banking networks were inter-bank clearing and settlement networks, and were a direct channel for transmitting financial pressures during the Panic of 1907 (James, McAndrews and Weiman 2013). Following Frydman, Hilt and Zhou (2015), we identified affected trust companies as those falling within the top 25 percentile of negative deposit changes. The third variable is a city's *geographical distance to New York City*. In unreported analysis, we also

controlled for the geographical-distance weighted number of bank runs in 1893 and 1907 because communities may learn from the experience of neighboring communities in dealing with bank runs in 1893, and bank runs in the local or neighboring community in 1907 might affect the organization of collective action. However, only three cities in our sample experienced runs in 1907. Neither of these two variables is significant nor affects our hypothesized effects, and so we did not include them.

Fifth, we control for two variables relating to the conditions of banks related to the pressure that they face during the Panic of 1907. One variable is the *percentage of national banks* within the local banking population, because national banks tended to be relatively large banks with higher reserve requirements, and they might have stronger capacities to survive the financial crisis. The other variable is the *abundance of banking capital* in a community, which is measured by the average ratio of capital and surplus to total deposits for all of the banks in a city. Communities that had abundant capital might have had less need to organize collective action. The number of banks in a city might have influenced the likelihood of organizing collective action, but we don't control for this variable because it is highly correlated with the population size of a city ($r=0.87$). Descriptive statistics of all the variables used in the collective action analysis are provided in Appendix 2 provided online. The measurement and sources of control variables are reported in Appendix 3 provided online. None of the variance inflation factors (VIF) of our predicting variables is above 10, so multicollinearity is not a concern.

RESULTS

Table 1 reports the results of the joint analysis of the incidence of the two types of collective action. Because we adopt the joint probit model to simultaneously estimate the incidence of two types of collective action, we report two panels of results for each estimation model (panel A for the community collective action of currency substitutes, and B for the organizational collective action of mutual lending). Model 1 includes all the control variables. The results show that currency substitutes were more likely to be issued in places where the nationality homogeneity was relatively low. In addition, banks in communities with high interlock density were more likely to organize currency substitution. Banks in

cities where the mutual lending had been organized were also more likely to organize currency substitution. Mutual lending was more likely to be organized in cities with a large population and more manufacturing output. The existence of a clearing house provided a formal forum of coordination and increased the incidence of mutual lending. In addition, banks in communities with high interlock density were more likely to organize mutual lending. Banks in cities that were geographically far from New York City were also more likely to organize mutual lending. The Athrho value indicates the correlation between the error terms of the two estimation equations, and its insignificant value suggests lack of correlation for these models.

Model 2 tests the main effect of bank runs in 1893. Although the directions of these coefficients of bank runs on the two types of collective action are as predicted, neither of these effects is statistically significant. Hypotheses 1 and 3 are not supported when tested alone. Panel A of model 3 tests the interaction effect between bank runs and the mean hazard of bank runs in 1983. The interaction effect is significantly negative, and thus Hypothesis 2 is supported. After controlling for the interaction effect, the main effect of bank runs in panel A of model 3 also became significant, suggesting that bank runs in 1893 reduced the incidence of currency substitution in 1907. Thus, both Hypotheses 1 and 2 receive strong support after the interaction effect is added. To facilitate the interpretation of the effects, we graph the predicted probability of issuing currency substitutes in panel (1) of Figure 1. In this and all other figures, all variables are set to their means, so the vertical axis shows the magnitude for a typical observation. The graph clearly shows that communities that had suffered bank runs in 1893 were less likely to issue currency substitutes and that the probability of doing so is the highest when a community was at high risk of bank run in 1893 but experienced none. We also tested the interaction effect between bank runs and the mean hazard of bank runs on the incidence of currency substitution and found that effect to be insignificant. Model 4 replicates the estimation of Model 3 by using the maximum predicted hazard of bank runs in 1893. The patterns of coefficients remain the same, suggesting that our findings are robust. In addition, the interaction effect between bank runs and the maximum hazard of bank runs on the incidence of issuing currency substitutes turns positive and marginally significant ($b=28.916$, $p<.10$) in

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panel B of model 4.

Model 5 tests Hypothesis 4 by including the interaction between the percentage of banks that survived the Panic of 1893 in a city with the number of bank runs to predict the incidence of mutual lending. The results show a significant positive effect, suggesting that mutual lending was more likely to be organized in communities where more banks had experienced the bank runs in 1893. These results support Hypothesis 4. We graph the interaction effect in panel (2) of Figure 1, and the graph shows that the incidence rate of the organizational collective action of mutual lending is highest when a high percentage of banks within a local community had experienced bank runs in 1893, while the rate is lowest when a high percentage of banks within a local community had experienced the Panic of 1893 without suffering bank runs. The experience of bank runs shaped the organizational memory of banks and led them to seek an interbank solution to defend themselves in the next financial crisis.

Finally, Model 6 tests the moderation effect of building a clearing house after the Panic of 1893 and shows a marginally significant interaction effect (b=0.705, p<.10). In places where a bank clearing house was built after severe bank runs in 1893, banks were more likely to do mutual lending in 1907. Hypothesis 5 receives marginal support. We graph the effects in panel (3) of Figure 1. The graph shows that building a clearing house after a severe crisis increases the chance of organizing mutual lending. It is worthwhile to point out that we control for the existence of a clearing house in a community when estimating the incidence of organizational collective action. The marginally significant interaction effect reflects the effect of constructing new clearing houses between the financial crises.

We do not theorize moderation effects of the percentage of surviving banks and building of a clearing house on the community collective action because the directions of prediction are unclear. A high percentage of banks experiencing bank runs and the action of building a clearing house might have led bankers to recognize the need for collective action, but also to become less likely to expect community support. Thus these two effects counteract each other, leaving the direction of the predictions for community collective action unclear. In unreported analysis, we include the two moderation effects and find them being neither significant by themselves nor affecting our hypothesized results.

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Inverse Probability Treatment Weighting Model and Robustness Checks

In these models, there is a potential for endogeneity effects that could lead communities and banks that avoided bank runs in 1893 to differ from those struck by bank runs by some unmeasured factors that in turn influenced their actions in 1907. To test the robustness of our findings to the endogeneity concern, we adopt inverse probability treatment weighting (IPTW) by weighting our observations with the inverse probability of having a run in 1893. Developed by biostatisticians to resolve the nonrandom assignment problem in observational data (Robins, Herman, and Brumback, 2000; Azoulay, Ding, and Stuart, 2007), IPTW relies on the logic of counterfactuals and compares each treated subject or observation to a pseudo-population and the difference of both groups represents the average treatment effect. Specifically, each observation in the sample is assigned a weight of $1/P(A = a_i | L = l_i)$, where P indicates the predicted mean probability for a city to have a bank run in 1893, a_i indicates potential treatment (i.e., bank runs or not), and l_i represents the observed confounding variables. In this way, the IPTW method simultaneously counterbalances any estimation bias caused by the incidence of bank runs in 1893 and banks' subsequent actions in the later financial crisis.

We report the IPTW estimates of collective action in Appendix 4 provided online, which shows that the findings are unchanged or strengthened by the IPTW weighting. In these models, the negative effect of prior banks on currency substitution is more significant when tested alone. The moderation effects of the predicted hazards of bank runs on the incidence of community collective action remain robust. Moreover, when predicting the incidence of organizational collective action, the positive interactions between bank runs in 1893 and the percentage of survived banks as well as the founding of a clearing house remain robust. There are good reasons why the patterns of the results remain robust after controlling for the propensity of the incidence of prior bank runs. The first reason is that these runs were a half generation apart and in communities that changed significantly, including in the composition of banks. Unmeasured factors are likely to have changed over this time span. The second is that the outcomes are different. A bank run, and the hazard of a bank run, is determined by whether a community

judges the bank to be at risk of failure and hence starts withdrawing savings. This is an individual action

against the bank, driven by community-level assessments (Greve and Kim 2014). Community action is

also affected by community-level assessments of each bank, and so is not independent but strongly driven

by elite mobilizing efforts in the community (Yue 2015). Therefore, even after controlling for the

potential endogenous effects on analyses, these factors suggest that our conclusions are secure.

We also conduct two other robustness checks to test alternative mechanisms and boundary

condition of results. First, we test whether the stability of the human community moderates the impact of

a prior financial crisis on subsequent responses. We measure the stability of human mobility by using

three measures, the percentage of population born within the state, the percentage of foreign born

population, and the growth rate of population. Neither of these three variables has a significant main or

interaction effect on the types of collective action in 1907. We further tested the changes in the city-level

social, demographic characteristics from 1890 to 1900 (population growth, race homogeneity, foreign

population %, economic inequality, religion homogeneity, nationality homogeneity) and found that none

of the demographic changes differed significantly in cities where bank runs happened in 1893 from those

where bank runs did not happen. From this evidence, we conclude that it is unlikely that the human

population stability served a mechanism for institutional legacy.

Second, we also test whether the political context (i.e., the anti-banking ideology and the political

heterogeneity) is a facilitator of the impact of past experience on collective action in a subsequent

financial crisis. To measure anti-banking politics, we tested the moderating effect of the Populist ideology

(i.e, the percentage of vote supporting the Populist presidential candidate in the 1904 presidential election

in a county). We measure the political heterogeneity using the reverse of the Herfindal index of the voting

shares for different presidential candidates in a county ($1-\sum_i \theta_i^2$). We find that the presence of the Populist

ideology increase banks' tendency to organize mutual lending if there were severe bank runs in the prior

crisis. The Populist ideology is insignificant, either in the main or the interaction effect with bank runs in

the prior crisis, in predicting the incidence of currency substitution. The insignificant results may be

explained the Populists preference for inflationary monetary policies despite their anti-banking ideology

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(Yue, 2015). Political dividedness of a local community hindered banks' tendency to resort to their communities for support but increased their inter-organizational solution especially when bank runs were severe in the prior financial crisis. These findings further support our predictions that trust within a community is an important factor that influences bankers' choice of collective action.

Finally, because our sample used to estimate the incidence of collective action has a relatively small size, controlling for many covariates limits the statistical power of the estimation models. We therefore tested the robustness of our findings in models 1-6 by reducing the number of control variables, and we found that our results were not sensitive to the inclusion of particular control variables.

DISCUSSION

Crises present communities with problems, which in turn can be addressed through collective action. The short term perspective is that communities differ in resilience to crises (Cutter et al. 2008; Norris et al. 2008), in part because of differences in trust and cohesion among community members and structures for mobilizing community support (Molotch et al. 2000; Wright and Schaffer Boudet 2012). The long term perspective is that crises, when communities discover their cohesion and mobilization capability, can be turning points for communities that experience responses that are better or worse than expected. In our data, communities facing the second crisis in a half-generation time span failed to respond in one-third of the cases. The other communities were able to respond, with a majority showing responses that indicated community trust in organizations and a minority showing organizations engaging in mutual help without community assistance.

The variation in responses is interesting, especially because it can be explained by community responses to the previous crisis. We find that communities that proved to be cohesive and trusting of banks in the first crisis were able to organize for community collective action, and communities that showed distrust were likely to see organizational collective action, though they could also end up with no collective action at all. The findings sum up to a clear confirmation that a crisis is a test of community cohesion, and the response leaves a trace in the form of an institutional legacy in the community or

learning in organizations. For good or bad, a crisis is a preparation for the next crisis.

An important theoretical implication is that we now have one more mechanism that builds – or breaks down – institutional legacies. Earlier research has identified legal systems, voluntary organizations, and intra-community relations as sources of institutional legacies (Greve and Rao 2014), but our work also identifies the organizational memory of a crisis response as an important additional source. As the figures of the effect sizes showed, it is a powerful source, and the 14-year duration between these two crises means that it is also a long-lasting source. Finally, it is a selective source that creates a specific match between the type of community response in one crisis and the type of collective action in the next (Yue 2016). These theoretical implications suggest that crises are more important than is suggested by their low frequency, because they connect to mechanisms in the community that have powerful, long-lasting, and selective effects.

The findings also lead to specific implications for each theory. Institutional legacies theory has a range of mechanisms explaining why some communities self-organize, in the form of creating new voluntary organizations or businesses, more frequently than others. Intra-community cohesion is one such mechanism (Jha 2013), but other mechanisms such as voluntary associations, social networks, and individuals trained in starting and operating organizations have also been proposed (Greve and Rao 2012; Schneiberg et al. 2008). It has not been clear whether any of these mechanisms can affect communities on its own, or if a combination is needed, or even if only some of them have the proposed effects, as they often occur together. A special feature of a sudden crisis is that the required responses need to be so quick that either cohesion and trust has to be in place to begin with – as when some communities in our data were able to engage in community collective action – or the organizational structure has to be in place to begin with – as when other communities had built a clearing house that facilitated cooperation. We now know from our findings that either of these mechanisms on its own can result in effective community responses to a crisis.

For learning theory, we were able to confirm that an organizational population could adapt to a major crisis such as a bank panic, but we also showed that the learning process had shortcomings. First,

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organizations were less capable of learning from an actual adverse outcome in the community, most likely because of the resulting breakdown in trust. While many responses to organizational learning can be done by the focal organization on its own, collective action requires cooperation, so when trust is broken it becomes much more difficult. Because learning theory has focused on how organizations learn from their own experience and from the environment, but not how organizations learn to make collective responses, this work points toward an interesting new area for learning theory. Similarly, the findings suggest a correction to the idea that organizational populations can learn from especially salient events even if they are not spatially proximate (e.g., Miner et al. 1999). Although it is clear that the banking industry overall was deeply affected by the 1893 panic, our findings demonstrate clearly that the learning in each community was a direct consequence of the risk of a run, and an actual run, in the *same* community. While learning for the purpose of improving ongoing activities occurs from distant sources (Ingram and Baum 1997), learning to prevent adverse consequences of crises seems to be mostly restricted to proximate locations. Again, future work can explore this effect more closely, because it is possible that learning from distant locations occurs, but is forgotten more quickly than learning from proximate events.

Another implication of our findings for the organizational learning literature is how organizations search in response to problems. While much of that research has focused on how the characteristics of problems affect organizations' search for solutions (e.g., Baum and Dahlin 2007; Manns and March 1978), our findings suggest that the characteristics of the solutions also constrain search – when experience has previously shown a lack of community trust, organizations tend to shun the community-based solutions but rather are more likely to search for others (in our case, the interbank solutions). Future scholars should expand this line of research and investigate how the availability of solutions may prompt organizations to take certain types of action.

The findings also have important implications for assessing the consequences of crises and preparing communities for additional crises. Community resilience is seen mainly as a function of economic and physical resources in the community though with some social component (Norris et al. 2008). What this view overlooks is that community resilience goes far beyond factors like the quality of road systems or

balances on bank accounts. Such factors can be completely overturned by social factors such as a community loss of trust in an organization, as was vividly demonstrated when people lined up – in good streets or bad – to withdraw their deposits from banks – who are the ones that actually hold bank accounts. Similarly, the refusal of banks to accept deposits from each other, and their inability to issue a currency substitute that community members would accept, bear strong witness to the crucial role of trust and cohesion for social and economic outcomes. Nor is this a product of older times or a lesson learnt and heeded – responses to the 1907 bank panic were closely related to the counterparty risks that drove the 2008 financial crisis. The main difference is that social phenomena that in earlier times had community-wide effects now have extended their reach to affect the global economy.

If the early indication of this work can be supported by additional research, we are close to discovering how a crisis can shape a community by altering interactions among community members, between community members and organizations, and among organizations. Like other community actions such as political or religious movements with strong mobilization (Radnitz 2010; Schneiberg et al. 2008), crises leave an imprint in the community. Unlike most other community events, crises have effects that take place over very short event horizons, and often with a significant stochastic component. After all, we cannot be sure that there really were important unobserved differences among communities with similar risk of a bank run that included some experiencing a bank run and others avoiding one. Luck may have been the deciding factor. This strongly suggests that researchers should take a closer look at how crises affect communities both during the development of the crisis and in the aftermath.

An important starting point is to distinguish crises that have a trust and social cohesion component from crises that involve trust and cohesion from the start. The bank panics we studied are pure trust breakdowns involving individuals losing trust in organizations, and organizations losing trust in other organizations. However, trust and cohesion is also involved in crises with other starting points. Natural phenomena that introduce scarcity in resources, such as drought in farming regions with shared irrigation, also have a strong component of trust. Natural phenomena that leaves the option for extreme helping behaviors (or for selfish actions), such as the immediate aftermath of floods, fires, and earthquakes, also

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have a strong component of trust. We cannot conclude from our research on bank panics that similar processes of proving or disproving community cohesion will take place in such crises, but we think that how trust (or the lack thereof) revealed by community members' responses to a bank crisis would affect organizations' subsequent strategy choice has implications for other types of crises. Bank runs reveal not just the distrust of community members upon organizations (banks) but also that upon each other. The lack of trust indicates that a community lacks collective action capability so that it is unable to mobilize to resist the invasion of external economic forces, to form exchange relationships, or supply public goods. These conditions are likely to affect an organization's assessment of the potential of a market as well their strategy choices such as market entries and staffing. Thus our focus on the information revealed by a community's response to a crisis and organizational learning as a mechanism that carries institutional legacy forward has broad implications. Moreover, our paper leverages the usefulness of the two nearly identical crises so that the influence of a prior crisis on the choice of response in a later one is relatively clear. However, other types of crisis can also reveal information about the internal trust within a community and consequently affects organizations' choice of action. Future research that tests the impact of one type of crisis on organizations' responses to anther will extend the literature.

In addition, future scholars should study how member responses to a crisis affect intra-community trust in other forms of communities. Besides geographically bounded residential communities, people who share common interests, identities, activities, and goals also form large, translocal communities. For example, in the Antebellum America, magazines had provided a channel for people that were previously isolated in small, local towns to connect and form national communities (Haveman, 2015). In recent years, the rapid development of social media has enabled people to instantly communicate with each other and form global communities. Investors from all over the world participate in collective actions on crowdfunding websites like Kickstarter. Yet, even for such large scale, global communities, geography still looms large because the lack of trust remains a deterrent to investment decisions. As a result, most funders of crowdfunding projects are local (Agrawal, Catalini and Goldfarb 2015), the project mix of founders echoes the cultural products of cities in which they are based (Mollick, 2014), and social

networks remain crucial mobilization tools for funding success (Mollick, 2014). In fact, because translocal communities are no longer bounded by geography, trust and cohesion are often more acute problems for them. Thus, we are confident that our theoretical predictions that crises test community cohesion are generalizable to translocal communities. Studying the role of crises in influencing trust and cohesion in translocal communities still remains a fruitful direction for future research.

How organizations and communities interrelate has become an increasingly active topic in research. Much of the work has focused on community influences on organizations, as in work on social movements (Zald et al. 2005) and cultural and political environments (Molotch et al. 2000). However, it is well known that organizations are also active on many fronts in shaping their environment (e.g., Pfeffer and Salancik 1978), and clearly they can also do this with respect to their community. We found that these two concerns interact – organizations can interact with the community in ways that shape it, but they are also constrained by the degree of trust within the community of organizations, between organizations and the human community, and within the human community. These interactions were especially critical in shaping the effect of the serious crises we studied, but we expect future work to find similar effects across a wide range of outcomes.

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Figure 1. Interaction Effect Predicting Collective Action

Panel (1).

Severity of Bank Runs in 1893

- - - - Mean Hazard=.01 ——— Mean Hazard=.03

Panel (2).

Severity of Bank Runs in 1893

- - - - Pctg of Survived Bks=.36 ——— Pctg of Survived Bks=.78

Panel (3).

Severity of Bank Runs in 1873

- - - - CH founding=0 ——— CH founding=1
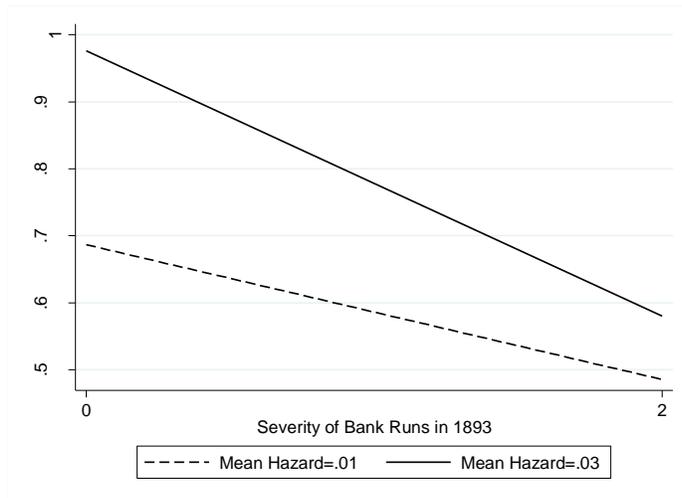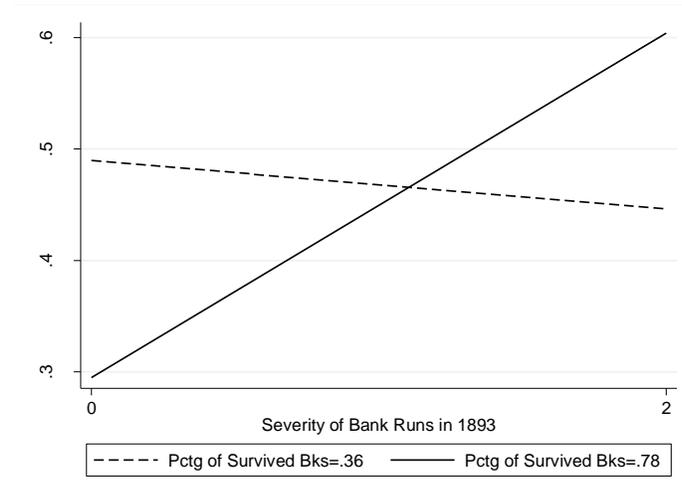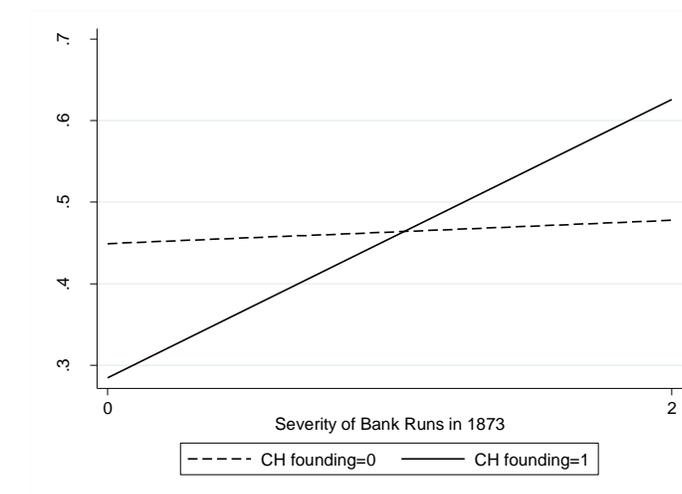
Table 1. Biprobit Model of Collective Action (Panel A)

	(1)	(2)	(3)	(4)	(5)	(6)
	Currency Substitute					
Population	0.001	0.002	0.022**	0.019**	0.002	0.002
	(0.002)	(0.002)	(0.010)	(0.009)	(0.002)	(0.002)
Manuf. output per capita	0.193	1.282	1.499	1.392	1.443	1.026
	(1.265)	(1.448)	(2.179)	(1.570)	(1.379)	(1.529)
Race homogeneity	-2.346	-2.365	2.024	3.450	-2.275	-2.017
	(2.433)	(2.531)	(6.924)	(6.839)	(2.582)	(2.623)
Religion homogeneity	1.654	2.351	0.958	0.596	2.324	1.786
	(3.273)	(3.388)	(4.992)	(5.011)	(3.963)	(3.582)
Foreign born percentage	0.774	0.554	-5.822	-5.364	0.033	0.343
	(3.029)	(3.110)	(5.015)	(4.569)	(3.652)	(3.302)
Nationality homogeneity	-2.821*	-3.316*	-4.140**	-4.003*	-3.949**	-3.638*
	(1.707)	(1.783)	(2.076)	(2.080)	(1.958)	(1.883)
Economic inequality	-0.841	-0.215	-3.387	-2.475	-0.097	-0.522
	(1.940)	(2.097)	(2.849)	(2.234)	(1.931)	(2.247)
Interlock density	2.590**	2.477*	4.582**	4.208**	2.695*	2.797*
	(1.281)	(1.332)	(2.234)	(1.861)	(1.409)	(1.477)
Clearing house	0.179	0.389	1.844*	1.724*	0.456	0.451
	(0.582)	(0.605)	(1.044)	(0.883)	(0.619)	(0.641)
Agriculture percentage	-17.548	-6.700	31.884	37.108	-5.683	-4.999
	(26.502)	(27.483)	(51.506)	(48.744)	(27.771)	(31.206)
Panic exposure	0.195	0.103	-0.821	-0.741	0.095	0.094
	(0.233)	(0.242)	(0.568)	(0.480)	(0.242)	(0.277)
Distance to NYC	0.124	0.164*	0.419**	0.405**	0.164*	0.180**
	(0.076)	(0.086)	(0.195)	(0.176)	(0.090)	(0.091)
National bank percentage	2.230	2.378	2.956	2.255	2.444	2.517
	(1.417)	(1.475)	(2.097)	(1.834)	(1.544)	(1.626)
Banking liquidity	-0.705	-0.268	0.135	0.012	-0.347	-0.628
	(1.288)	(1.380)	(2.995)	(3.044)	(1.234)	(1.420)
Mutual Lending	1.403***	1.584***	0.755	0.715	1.412***	1.448***
	(0.292)	(0.349)	(0.763)	(0.522)	(0.383)	(0.364)
Bank runs in 1893		-0.175	-0.313*	-0.313**	-0.173**	-0.163
		(0.111)	(0.180)	(0.128)	(0.082)	(0.110)
Mean hazard of bank run			143.060**			
			(60.939)			
Bank runs in 1893 × Mean hazard			-50.671**			
			(20.619)			
Maximum hazard of bank run				76.824**		
				(30.439)		
Bank runs in 1893 × Max hazard				-27.178***		
				(10.550)		
Constant	0.103	-1.387	-7.214	-8.464	-1.371	-1.311
	(3.023)	(3.307)	(8.249)	(8.035)	(3.194)	(3.498)

Table 1. Biprobit Model of Collective Action (Panel B)

	(1)	(2)	(3)	(4)	(5)	(6)
	Mutual Lending					
Population	0.008**	0.007*	0.006	0.005	0.008**	0.006
	(0.003)	(0.004)	(0.006)	(0.005)	(0.004)	(0.004)
Manuf. output per capita	2.217*	1.691	1.240	1.391	1.935	1.371
	(1.338)	(1.411)	(2.105)	(1.639)	(1.525)	(1.500)
Race homogeneity	2.378	2.409	9.654	7.505	3.452	1.437
	(2.396)	(2.419)	(6.809)	(6.507)	(2.563)	(2.546)
Religion homogeneity	-4.615	-5.256	-2.912	-2.208	-7.313	-7.580*
	(3.628)	(3.719)	(5.289)	(5.086)	(4.474)	(4.601)
Foreign born percentage	-4.490	-3.266	-6.748	-6.355	-2.642	-1.224
	(3.445)	(3.538)	(4.669)	(4.586)	(4.213)	(4.193)
Nationality homogeneity	-0.074	0.356	0.725	0.067	0.954	1.703
	(1.581)	(1.634)	(2.085)	(2.112)	(1.911)	(1.936)
Economic inequality	0.615	1.281	2.858	2.435	1.555	1.019
	(1.925)	(2.020)	(2.536)	(2.326)	(2.076)	(2.318)
Interlock density	2.082*	2.297**	3.165**	3.390**	2.493**	2.801**
	(1.144)	(1.167)	(1.554)	(1.540)	(1.228)	(1.376)
Clearing house	2.246***	2.129**	3.598	3.770*	1.831*	2.198**
	(0.807)	(0.832)	(2.444)	(2.175)	(0.985)	(1.112)
Agriculture percentage	50.557	47.549	120.435	121.807*	68.069*	45.176
	(31.689)	(32.371)	(75.557)	(68.676)	(38.379)	(42.194)
Panic exposure	-0.073	-0.005	0.306	0.411	-0.102	0.064
	(0.250)	(0.255)	(0.389)	(0.371)	(0.285)	(0.274)
Distance to NYC	0.101*	0.083	0.086	0.074	0.066	0.094
	(0.053)	(0.055)	(0.071)	(0.068)	(0.061)	(0.061)
National bank percentage	-0.434	-0.448	2.141	2.253	-1.640	-0.245
	(1.391)	(1.419)	(1.888)	(1.629)	(1.717)	(1.686)
Banking liquidity	-0.150	-0.191	-0.482	-0.507	0.506	-2.820
	(1.018)	(1.031)	(1.425)	(1.407)	(1.096)	(1.998)
Bank runs in 1893		0.104	0.027	0.002	-0.742*	0.062
		(0.080)	(0.110)	(0.097)	(0.417)	(0.082)
Mean hazard of bank run			-46.923			
			(73.621)			
Bank runs in 1893 × Mean hazard			32.894			
			(25.154)			
Maximum hazard of bank run				-38.782		
				(50.648)		
Bank runs in 1893 × Max hazard				28.916*		
				(15.414)		
Percentage of survived banks					-2.009	
					(1.423)	
Bank runs in 1893 × Percentage of survived banks					1.807**	
					(0.888)	
Building Clearing House						-0.736
Bank runs in 1893 ×						(0.663)
Building Clearing House						0.705*
						(0.418)
Constant	-5.714*	-5.952**	-17.578**	-15.486**	-5.370*	-4.313
	(2.933)	(2.983)	(8.763)	(7.872)	(3.114)	(3.498)
Athrho	-29.156	-14.119	-26.513	-1568.55***	-106.457	-15.594
	(493.868)	(492.351)	(689.538)	(590.997)	(488.196)	(540.670)
Log lik.	-50.164	-48.583	-36.426	-36.071	-46.040	-46.439

N=60 in model 1, 2, 5, 6; N=56 in model 3, 4; Standard errors in parentheses; * p<.10, ** p<.05, *** p<.01 (two-sided).