ACE 2016 Submission Paper

Lingyu KONG

This proposal is an submission for ACE 2016 of my project: *"China's Domestic Interbank Cooperation during the 'Golden Age' (1927-1937): A Network Approach"*. There are two kinds of closely related questions I will answer in my thesis. The first investigates the structure of connections between domestic banks during this important time for Chinese financial history. This is based on tools from social network analysis (SNA). Next, did interbank cooperation lead to better performance than competition? Was the collaboration providing a more desirable incentive for banks in an environment, where the legal system was not well functioned and the society experienced turbulence?

I am currently in the first year of my PhD program. The ideas, which are outlined in this project, will frame the core of my first dissertation. I have investigated the corresponding literature within the network economics as well as the theories on economic benefits of connected firms and identified the most promising approaches for these questions. The next step is to acquire relevant data and other apposite source material. After that, I will execute the empirical analysis and interpret the results on basis of the theoretical literature and in light of the historical environment. Following I provide an outline of my research project.

1   Historical Context

The first Chinese modern domestic bank was established in 1897, more than half a century after a British bank had set up its first branch in China. After the fall of the Qing Dynasty in 1911, China was caught in the period of the warlords. During the time span of political turbulence from 1912 to 1927, a total of 266 new banks opened for business, around eighteen each year. Almost half of them, however, went out of business during the same period[1]. After the warlord era ended with the establishment of the Nationalist government in Nanjing in 1927,

---

[1]Based on the study of Cheng (2003).

the so-called Nanjing decade (1927-37) began, which has been described by some scholars[2] as a "golden decade" for China's modernization and lasted until the outbreak of the Sino-Japanese War in 1937. China's political unification under the Nationalist government provided the modern Chinese economy with a good opportunity for development, particularly for the modern banking sector. Indeed, the total paid-up capital of Chinese banks increased from C$167 million in 1927 to C$403 million in 1936. From 1927 to 1936, modern Chinese banks more than doubled their capital and reserve funds, tripled their loans and total assets, and quadrupled their deposits. [3]

One of the important features of the banking sector during this time period was the business cooperation among the major banks. For instance, The Shanghai Bankers' Association (SBA), a financial organization that helps promote the welfare and coordinate the banks' strategic plans, was established in 1918, and by 1931, its members had increased to 29 from the original seven. Leader of the major banks appear to have believed that only by cooperating their banks would survive the fierce competition and expand further. [4]

2 Identifying an Interbank Relation Network

Contemporary writings and the modern literature suggest that the interbank cooperation network permeated banks' operations. It played a central role in the transmission of information about business opportunities and was critical to the trade of many goods and services. In order to capture those features of such interbank connection, the first step of my project is trying to establish the nature of this interbank network using social network tools. This analysis will draw on two main sources of networks I have identified. The first consists of personnel records among banks. I will collect data of board directors and managers at superior level of the major banks during the time period. Utilizing the original hand-collected dataset, I am able to identify the staffs, who occupied quality positions in multiple banks simultaneously. The second focuses on interlocking directorate, which refers to the practice of members of a corporate board of directors serving on the boards of multiple corporations. Two firms have a direct interlock if staff or executives of one bank are also employees or directors of the other. Based on these records, I can establish an interbank connection network, which consist of nodes and

---

[2]For example, Bergere (1989) and Xu (2000).

[3]These figures are from Bank of China, *National banking year book*, 1937. and Cheng (2003). C$= Chinese yuan

[4]This saying is a summary of the leader's views of the major banks in China by author. Details see *Twenty years of history of Shanghai Commercial and Saving Bank*, 1936, 1st ed. .

links. Nodes and weighted edges denote individual banks and the interbank connections, separately. [5]

There are of course other ways in which a bank may get connected. This implies that the number of connected banks identified in this study is a lower bound on the actual number of interconnected banks. However, as Asimakopoulos (2009) emphasised, interlocks allow for cohesion, coordinated action, and unified political-economic power of corporate executives. It captured main characteristics of the interrelation of firms in terms of identify the interbank cooperation network. Hence, I consider the interbank director/manger links as the main way to establish such a network.

After identifying the network relationships, it is easy to employ the methodology of social network analysis to represent and measure the interbank network. [6]

3   Evolution and Impact of the Cross-bank Network

Hillman and Dalziel (2003) argued that boards both monitor and provide resources, and theoretically, both are related to firm performance. By review the previous studies, Mizruchi (1996) summarized that there is a general association between interlocking and profitability.

This part of my research attempts in investigate whether the network links (interlocking) have a noticeable and systematic impact on bank performance (valuation, productivity, profit, etc.) in Chinese context. To address this question, I need to find a setting that would allow one to test whether they do indeed affect bank performance. My project will look at two different settings. The first is the operational development of the principal Chinese banks from 1927 to 1937, building upon official bank accounts, including balance sheets, profit and loss statements, etc. The second is a cross-section of the whole network in 1935[7] and uses supplementary data extracted from *The Chinese year book of banking and finance*. My core hypothesis is the interbank network, which established based on the definition of interlocking directorate

---

[5]Based on my very preliminary result from over 4000 observations in 1935 (each of them is recorded with the information about name, age, birthplace, bank they work in, bank place etc.), 590 individuals have two or more positions either in the same bank or different banks. In light of the information, I established a social network, which consist of 300 nodes (banks) and 689 edges (Interlocking directorate/staff). For network information and preliminary statistics please see the online appendix: *https://www.dropbox.com/sh/0l8clswpwcso28u/AABtY9eKkncQZzKr8UcPwCUXa?dl=0*

[6]There are some representations that serve as a useful basis for capturing many applications of networks. For instance, degree distributions, diameter, average path length and centrality.

[7]As I mentioned above, the network is based on the personnel data I can locate by now. Nonetheless, I will expect to find supplementary personnel documents if I get access to the local archives to extend the time coverage of the network.

and staff, affect firm value and performance. Banks that have more external links should report higher levels of performance than do banks that have less interbank connections[8].

4   Summary

Interbank relationship, characterized by interlocking directorate and staff, among early modern Chinese banking system remains poorly documented; the literature takes strong views, but these views are not often supported by clear analytical structures or by the detailed data one would want. This dissertation will use the tools of modern economic theory and econometrics, combined with detailed archival data, to advance our understanding of the economic development in the Republic of China.

---

[8]A challenge I may face is the endogeneity of the network. Studies of this issue have yielded a wide range of findings. Acemoglu et al. (2014), e.g., exploited to plausibly rule out unobserved factors and to develop instruments that are plausibly exogenous to the interaction structure. One can also jointly estimate a model of behaviour and network formation as in Badev (2013).

References

Acemoglu, Daron, Garc a JimenoCamilo, and James A Robinson (2014), "State capacity and economic development: A network approach." Technical report, National Bureau of Economic Research.

Asimakopoulos, John (2009), "Globally segmented labor markets: the coming of the greatest boom and bust, without the boom." *Critical Sociology*, 35, 175–198.

Badev, Anton (2013), "Discrete games in endogenous networks: Theory and policy."

Bergere, Marie-Claire (1989), *Golden Age of the Chinese Bourgeoisie, 1911-1937*. Cambridge University Press.

Cheng, Linsun (2003), *Banking in modern China: entrepreneurs, professional managers, and the development of Chinese banks, 1897-1937*. Cambridge University Press.

Hillman, Amy J and Thomas Dalziel (2003), "Boards of directors and firm performance: Integrating agency and resource dependence perspectives." *Academy of Management review*, 28, 383–396.

Mizruchi, Mark S (1996), "What do interlocks do? an analysis, critique, and assessment of research on interlocking directorates." *Annual review of sociology*, 271–298.

Xu, Xiaoqun (2000), *Chinese professionals and the republican state: The rise of professional associations in Shanghai, 1912–1937*. Cambridge University Press.