International Journal of Social Science and Economic Research

ISSN: 2455-8834

Volume:01, Issue: 07

EMPIRICAL RESEARCH ON RELATIONSHIP BETWEEN MARKET STRUCTURE AND MARKET PERFORMANCE OF CHINESE BANKCARD INDUSTRY

Li Tan[1], Xing Yu[2], Xiao Yuan[3]

[1]Hunan University of Humanities, Science and Technology, Department of Mathematics and Finance, Hunan, China, Email: 710402858@qq.com

[2]Hunan University of Humanities, Science and Technology, Department of Mathematics and Finance, Hunan, China, Email: 17463265@qq.com

[3]Military Representation Bureau of Wuhan, PLA Army, Julongdadao 30, Huangpi, Wuhan, Hubei, P.R.C, Email: yuanxiao@ustc.com

ABSTRACT

This paper used constant coefficient of random effects model to analyze the relationship between market structure and market performance of Chinese bankcard industry, selected 1500 groups of panel data from 15 most influential commercial banks in China from 2003 to 2012. Real evidence demonstrated a negative correlation between market concentration and performance in China's bankcard industry, and a positive correlation between market structure and performance. Based on the empirical findings, some suggestions were given in the end of the part.

Keywords: bankcard industry, market structure, performance, relationship.

1. BACKGROUND AND SIGNIFICANCE

With the development of information technology, the modern information industry is permeating through all aspects of life. The high speed and convenience of bank card transaction makes it beyond comparison of all traditional ones. As a payment combining consumption and credit, bank card transaction is now playing a significant role in our daily life. The substitution of cash by card in consumption has also contributed to the explosion of bank card acceptance market such as merchant POS and ATM.

In recent years, the bank card industry in China has developed rapidly with an increase of bank card circulation and a growth of transaction values. The expansion of bank card industry has led

ISSN: 2455-8834

Volume:01, Issue: 07

to the transformation of its market structure at the same time. But bank card industry in China starts late, there is still a gap compared with that of the developed countries. Meanwhile, there are numerous deficiencies in its market structure and market performance.

2. LITERATURE REVIEW

Smirlock studied the relationship between market structure and market performance of US bank industry and found there was a positive correlation between the performances and the market share, market concentration and performance were not relevant. The results verified the effective structure hypothesis [1]. Wanshun Qin (2001) thought that the bank efficiency was the most important factor of the performance of commercial banks, market share and scale efficiency of the banks was negatively correlated [2]. Jingxue Chen used the data envelopment analysis to do empirical research on Market Structure and Performance of the banking industry of China, thought that effect within the bank decided the changing direction of banking performance [3]. Chunchun Huang constructed a two-stage model from the perspective of network economics, and concluded that POS number was negatively associated with the price, which explained why our government encountered obstacles during the implementation of POS [4]. Xueping Wang used market concentration rate and Hirschman-Herfindahl index to do empirical analysis on the relationship between market structure and performance of China's banking card industry, concluded that the bank card industry's concentration was increasingly weaker, bank card industry would grow faster, and the performance would be better [5].

3. EMPIRICAL ANALYSIS

3.1 Model Introduction

This paper used an empirical model to verify the relationship between market structure and performance of the bank card industry, which was based on the market power hypothesis and efficiency structure hypothesis model proposed by Smirlock. The model was as followed.

$$\pi = \beta_0 + \beta_1 CR_n + \beta_2 MS + \alpha' X \qquad (1)$$

"π" represented business performance, generally represented by the return on capital. "CR_n" was market concentration, "MS" was the company's market share, "X" represented other associated control variables. This paper made several assumptions as followed.

Assumption 1: Market structure and performance of the bank card were positively correlated.
Assumption 2: The market share of China's banking card business and its performance were positively correlated.
Assumption 3: Bank's market share of authorized merchants and market concentration were positively correlated to its performance.

ISSN: 2455-8834

Volume:01, Issue: 07

3.2 Variables

This paper selected π as the dependent variable, which means ratio of each issuer bank's card transactions during the year and total assets of the issuing bank.

Independent variable were the market share variable (MS), market concentration (CR_n), market share of authorized merchants (MS') and concentration of the authorized merchants (CR_n') .$\beta_1 MS'$ and $\beta_2 CR_n'$ represent the concentration with bilateral market and network externalities.

Control variable wereΔGDP, ΔATM, ΔPOS, ΔMA and $\Delta POINT$.

Substituted above variables into the original model, the model expands to:

$$\pi_{it} = \beta_0 + \beta_1 MS_{it} + \beta_1 MS'_{it} + \beta_2 CR_{n_t} + \beta_2 CR_n'_t + \beta_3 \Delta GDP_t + \beta_4 \Delta MA_{it} + \beta_5 \Delta ATM_{it} + \beta_6 \Delta POS_{it} + \beta_7 \Delta POINT_{it} + \mu \quad (2)$$

i=1,2,3,……15, corresponding to the sample of 15 banks, t represented time, μ is a random disturbance term.

3.3 Samples and Data Sources

This paper selected 15 influential commercial banks as the empirical samples, and sample composition was shown in Table 1.

Table 1: Sample composition

Sample Title	*Bank's Name*
JH	China Construction Bank
GH	Industrial and Commercial Bank of China
ZH	Bank of China
NH	Agricultural Bank of China
JT	Bank of Communications
GUANGD	China Everbright Bank Standard Chartered Bank
ZHONGX	China Citic bank
MINS	China MinSheng Bank

ISSN: 2455-8834

Volume:01, Issue: 07

HUAX	HuaXia Bank
GUANGF	GuangDong Development Bank
ZHAOS	China Merchants Bank
SHENF	ShenZhen Development Bank
XINGY	Industrial Bank
PUF	ShangHai PuDong Development Bank
YOUC	Postal Savings Bank of China

Data mainly derived from the "ALMANAC OF CHINA'S FINANCE AND BANKING" and each bank's official website.

3.4 Empirical Results and Analysis

Based on demonstration unit root test, cointegration test and Hausman test, this paper selected the constant factor random effects model. The empirical results were shown in Table 2.

Table 2: Empirical results

Variable	*Coefficient*	*Prob.*
GDP	3.098564	0.0598*
MS	15.24187	0.2025
MSP	-11.54745	0.1059
CR8	-3.507609	0.0795*
CR8P	-3.743011	0.0549*
MA	0.321907	0.0908*
ATM	-4.089479	0.0319*
POINT	-4.321907	0.1955
POS	-0.079479	0.0029*
C	-0.239833	0.1550

Note: "*" indicates a significant level by 10% Test

R-squared	0.194689	F-statistic	2.720452
Adjusted R-Squared	0.128195	Sum squared resid	51.80959

ISSN: 2455-8834

Volume:01, Issue: 07

These results indicated that in China's banking card industry there was no positive correlation between the market concentration and performance, the market share and performance was positively correlated, but the correlation with market efficiency was not significant. Therefore, the traditional hypothesis of Harvard School and Chicago School were not established in China's banking card industry. Firstly, the market structure of China's commercial banks was not formed spontaneously by the market, which was under the influence of the formation of institutions and policies. China's banking card industry had high barriers to entry, this monopoly structure under non-market competition resulted in efficiency structure hypothesis failed in our country. Secondly, China's financial industry had a strict financial control, state-owned banks occupied monopoly positions in the market share and had high market concentration, but banking regulation determined that banks had no right to price so couldn't seek high profit, Which was the main reason for the failure of the traditional collusion hypothesis in our country.

4. SUGGESTIONS

Based on the previous analysis, we propose the following suggestions. Firstly, the government should reduce the access conditions of bank card industry, let more issuer to participate in the competition, which helps to improve the existing market structure and enhance the vitality of the bank card industry, thereby enhancing the performance of the bank card market. Secondly, in the development of the bank card market, in order to improve the market structure, states should actively support the development of small and medium banks, limit market concentration. Thirdly, government should encourage effective acquisitions between banks. Effective acquisition made it possible to absorb both specialty products and improve product quality, expand their business channels to achieve the economies of scale. Fourthly, the commercial banks should change their management objectives, improve the ability of innovation and the quality of service, improve the acceptance market, and achieve the economies of scale in bank card business.

REFERENCES

[1] M. Smirlock, "Evidence on the Relationship between Concentration and Profitability in Banking," Journal of Money Credit and Banking, 1985(17), pp. 69-83, 1985.

[2] Wanshun Qin, Jun Ouyang, "Chinese Commercial banking Market Structure, Efficiency and Performance of Chinese Commercial Bank," Journal of Economic Science, 2001(4), pp. 34-47, 2001.

[3] Jingxue Chen, "An Empirical Study on Relationship between Market Structure and Market Performance of China's Banking Industry," Journal of Finance Forum, 2004(5), pp. 23-29, 2004.

[4] Chunchun Huang, "Credit card's Standard and Bank Competition: Network Economic Perspective," Journal of Financial Research, 2006(5), pp.70-80, 2006

ISSN: 2455-8834

Volume:01, Issue: 07

[5] XuePing Wang, Chenghu Zhang, "Empirical Research on the Relationship between Market Structure and Performance of China's Banking Card Industry," Journal of Shanxi Finance and Economics University, 2007(11), pp. 104-108, 2007.

[6] Schcrer, Industrial Market Structure and Economics Performance, Rand McNally, Chicago, 1980.

[7] John M. Blair. Economic Concentration, Structure, Behavior and Public Policy, Harcourt Brace Jovanovich, New York, 1972.

Author Profile

Li Tan received the B.S. and M.S. degrees in Finance from Hunan University in 2011 and 2014, respectively. She is an assistant in department of mathematics and finance of Hunan University of Humanities, Science and Technology. Shi is interested in economic theory and practice.

