

A comparative study on cross-border merger performance for Chinese and American commercial banks

Ruibo Liu^a, Xiaojun Niu^{b}*

^a Yanshan College Shandong University of Finance and Economics, P.R. China, 250202

^b School of Finance, Shandong University of Finance and Economics, P.R. China, 250014

Corresponding author: *Xiaojun Niu, 444648100@qq.com*

Abstract

Faced with competition and pressure in the international banking, Chinese had to consider how to use the cross-border mergers and acquisitions to realize their own rapid development and growth and to enhance competitiveness. This paper selected the cases of cross-border mergers and acquisitions for Citibank in the United States and Industrial and Commercial Bank of China. DuPont financial analysis and event study were used on their performance in mergers and acquisitions, and several specific suggestions were put forward.

Key words: *cross-border M&A; citibank; industrial and commercial bank of China; financial analysis; event study*

1 Introduction

With the development of transnational M&A, the China banking accelerated the pace of "going out", adopting cross-border mergers and acquisitions to expand overseas market and business so as to improve its management efficiency and the core competitiveness. However, the promotion of M&A performance is the standing point and destiny of acquisition. As is known to us all, the United States is the leader of the latest wave of banking merger and acquisition. Among these banks, Citibank, "the world's most profitable machine", can always win in the fierce competition. As a result, Citibank has become the object that many newcomers seek to emulate and to follow. In this paper, two typical M&A cases are selected for comparison, so as to learn experience from Citibank and promote development of Chinese banks.

Domestic and foreign study on the performance of bank's cross-border mergers mainly used accounting research based on financial performance and event study based on stock price.

Accounting method, mainly using indicators can reflect enterprise management ability and

performance to analysis the financial performance of enterprises(D.M.Mueller,1989)¹. Event study is defined as making price of the stock as the center of the target enterprise, through studying whether M&A events affect the stock price which is the time-series data to test the market reaction to M&A events(P.K.Healy, Palepu and R.Ruback,1997)². Different research results have different opinions on the M&A performance, which indicates that the research on M&A performance still needs further study.

2 Comparative analysis of the cross-border M&A performance of Chinese and American banks

2.1 Financial performance of M&A

2.1.1 DuPont analysis

This paper analyzed the data from two years before the acquisition to two years after the merger. On the one hand, considering the changes of the performance of mergers and acquisitions is likely to be 2 years to display, on the other hand, to avoid introducing other events on the effect of mergers and acquisitions because of the long span of selected year (X.Zhang,2003)³.

Due to a large difference between Citigroup and ICBC in the M&A fund, this article emphatically analysis the changes relative to the trend of itself. Because of the large capital size gap in M & A between Citibank and Industrial and Commercial Bank of China, this paper focuses on the analysis of its own trend changes, to respectively represent the return on equity (ROE), profit margin (PM), total asset turnover (AU) and equity multiplier (EM) of Citibank and Industrial and Commercial Bank of China in the form of line chart, to more clearly show the difference in profitability, operational capacity and solvency of Citibank and ICBC before and after M & A. Among them, Q0 indicates the year of the merger, Q-1 denotes the year before the merger, Q1andQ2 show one and two years after the merger happened.

(1) Comparison of ROE

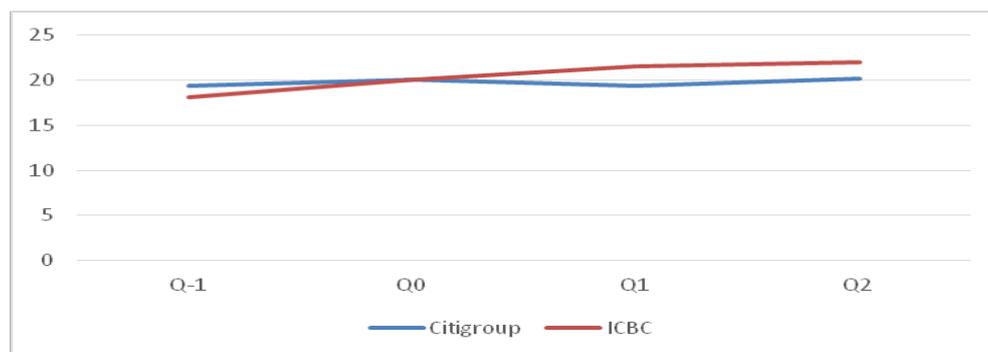
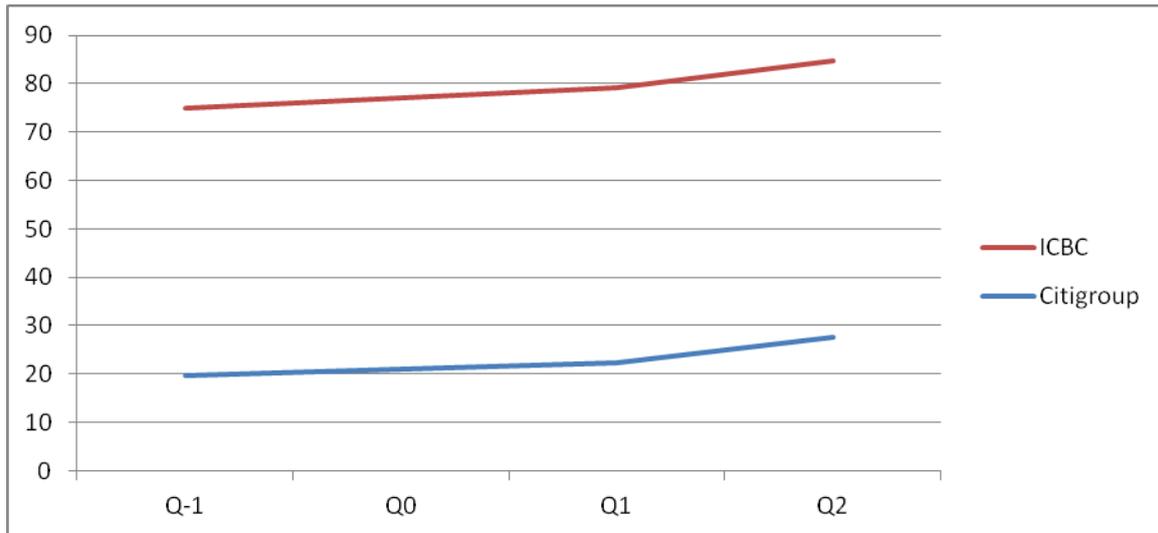


Fig.1 – Comparison of ROE (Source: www.citigroup.com, www.icbc.com.cn/icbc)

As is shown in Fig. 1, return on equity of Citigroup has no significant changes, while ICBC has a steady upward trend, indicating that the M & A event promotes the asset utilization of ICBC and improves the efficiency of funds utilization. According to Dupont Analysis Model, ROA can be decomposed into two parts which can be written as $ROE = PM \times EM$ (Z.Huang, L. Cao, 2013)⁴. The following will analyze the driving factors of the changes of bank's value comprehensively.

(2) Comparison of operating profit margin

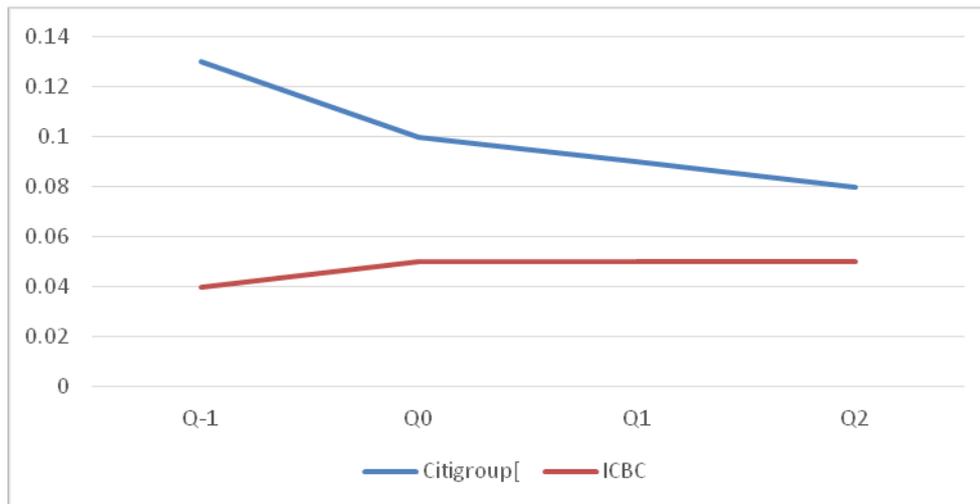


Source: www.citigroup.com, www.icbc.com.cn/icbc

Fig.2 – Comparison of operating profit margin

By comparing the profit margin of Citibank and ICBC, has been presented in Fig. 2, it can be found that the operating profit margin of Citibank rose steadily. Because the operating margin contributes to Citibank's return on equity. Contrast to Citigroup, the profitability tendency of Industrial and Commercial Bank is relatively stable. According to the research material, it can be found that cost controlling contributed to the increases of Citigroup's profit margins. Thanks to the business center of functional departments and branch offices cut costs, the cost of Citibank could be saved. In terms of ICBC acquired Argentina's standard bank, the effect is limited because it had a higher price and a lower profit. But from the point of the strategic planning, this M&A project is conducive to integration and expansion of international business of ICBC which is helpful to speed up the pace of integration management.

(3) Comparison of total asset turnover ratio

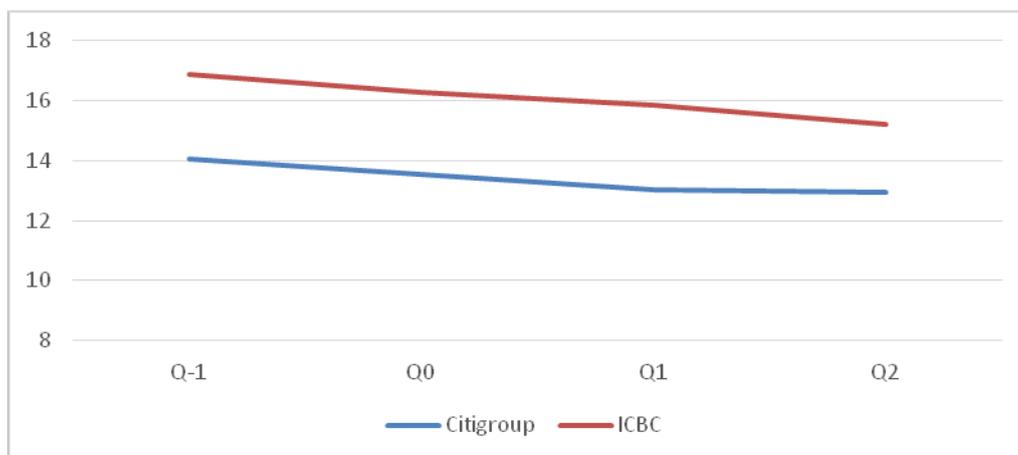


Source: www.citigroup.com, www.icbc.com.cn/icbc

Fig.3 – Comparison of total assets turnover ratio

As is shown in Fig. 3, the total asset turnover rate of Citibank sloped down significantly, and dramatically decreased happened in the year before the merger while the decline was significantly reduced two years after the merger. ICBC has a steady rise in the year before merger. The reason might be concluded that banks after mergers and acquisitions generally have a lot of expenditure on M&A , which has a certain effect on the total assets turnover rate. Changes in the total assets turnover ratio reflects the weaken overall assets operation ability of Citigroup during this period .But by controlling the cost and the relative amount of tax burden, Citibank will improve total assets turnover ratio, increase in absolute profits and accelerate assets turnover to improve the efficiency in the use of funds.

(4) Comparison of equity multiplier



Source: www.citigroup.com, www.icbc.com.cn/icbc

Fig.4 – Comparison of equity multiplier

It can be seen from Fig. 4, the comparison chart of the equity multiplier between Citibank and ICBC that the equity multiplier of the two banks has a stable and declining trend. The equity multiplier is mainly affected by the asset-liability ratio, which reflects the solvency of enterprises. According to Basel Agreement which sets a core capital adequacy ratio of 8 percent for commercial banks, it is acceptable that Citigroup has a debt ratio of about 92 percent and ICBC has a debt ratio of about 94 percent. Through the above comparative analysis on the financial index and market reaction of mergers and acquisition for Citibank and ICBC, it can be found that mergers and acquisitions had a positive effect on both of them, but the effect was weak. For Citibank, the National Bank of Mexico was no match for Citibank both in assets, deposits or annual income. The significance for this merger lied in strategy. It was the main purpose for Citibank merger to achieve a full range of business services through strategic acquisitions. Similarly, the financial indexes of ICBC varied little, but we must be aware that the effect of cross-border mergers and acquisitions on the bank is complex. Potential business risk and high costs of integration adds huge uncertainty for the success of mergers and acquisitions(T.Langetieg,1978)⁵.

2.2 The market value of M&A

2.2.1 Event study

(1)Defining event window

This part uses the event study method to compare the market value of China-US banks' cross-border M & A. Citibank's acquisition of the National Bank of Mexico was announced on May 17th, 2001, and the Industrial and Commercial Bank of China's merger of Standard Bank of Argentina was announced on August 15th, 2011. So the above two dates will be defined as the occurrence day of event, 140 days before the announcement is taken as the ante-estimation period for estimating normal yield, and the event window is [-60,60].

(2) Stability test

Before the regression analysis of the real yield and index return of individual stocks in the estimated window period, this paper examines its stability and uses ADF test. The stability test results of the actual yield of individual stocks are as follows:

Table1 – Stability test of individual stocks' real yield

Stock	t-Test	1% Critical	5% Critical	10% Critical	p-value
ICBC	-14.183	-3.491	-2.886	-2.576	0.000
Citigroup	-13.615	-3.491	-2.886	-2.576	0.000

notice: ***, **, * indicate level of significance test are 1%、5%、10%.

Table 2 – Stability test of index return

Stock	t-Test	1% Critical	5% Critical	10% Critical	p-value
ICBC	-15.722	-3.491	-2.886	-2.576	0.000
Citigroup	-12.927	-3.491	-2.886	-2.576	0.000

notice: ***, **, * indicate level of significance test are 1%、5%、10%.

As is shown in Table 1 and Table 2, the real yield of individual stocks and stability test of index return are both significance above 1 percent level. It proves that the series do not exist unite root and are stable. Therefore, the corresponding yield data of the two groups can be used to estimate the market model parameters(A.N.Berger , L.J.Mester,1997)⁶.

Table. 3 – Acumulative excess rate of return of individual stock

Event window	note	ICBC	Citigroup
[-60,-30]	30 to 60 days before the announcement	1.88%	11.17%
[-30,-20]	20 to 30 days before the announcement	-2.33%	-5.07%
[-20,-1]	20 days before the announcement	-0.84%	2.93%
[-3,-1]	3 days before the announcement	-1.81%	1.48%
[t=0]	announcement	0.13%	-1.35%
[1,3]	3 days after the announcement	1.48%	3.29%
[1,20]	20 days after the announcement	1.12%	9.04%
[-3,3]	3 days before and after the announcement	-0.20%	3.42%
[-20,20]	20 days before and after the announcement	0.41%	10.61%

(3) Calculate average excess return and accumulated excess return

The day's expected rate of return refers to the normal yield under the condition that event does not occur. Average excess rate of return reflects the degree of reaction of stock price to a particular event(A.B.David,2000)⁷. Because event announcement periods for some cross-border mergers and acquisitions are close, such as the Industrial and Commercial Bank's merge of Standard Bank of Argentina and its acquisition of East Asia USA all occurred in 2011, this paper chose index adjustment to estimates the average excess rate of

return, the difference between day's rate of return and the day's index yield, namely $AAR_t = R_t - ER_t$. Cumulative excess rate of return which can be written as $CAR_{it} = \sum AAR_{it}$ means the excess rate of return of the window period from the first day to the t trading day (L.Chen,2005)⁸.

(4) Yields of Event Window

Table3 indicates that, on the day [1,3] [1,20] and date of declaration, the cumulative abnormal rate of Industrial and Commercial Bank of China was positive, which shows that the capital market is optimistic to the M & A event. M & A improves the efficiency of ICBC, but this improvement effect is short. From 20 days before the announcement to 20 days after the publication, Citibank showed a significant positive effect. While Citibank appears negative cumulative abnormal rate only on the date of the announcement. Thus it can be seen M&A has a greater impact on Citibank than ICBC, and lasts longer.

(5) Yield trend comparison of average excess return and cumulative excess

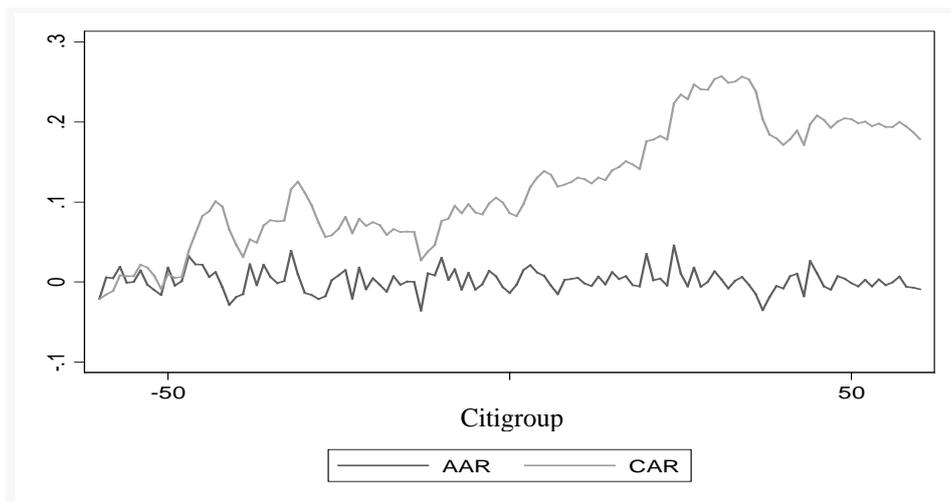


Fig. 5 – Trend of average excess yield

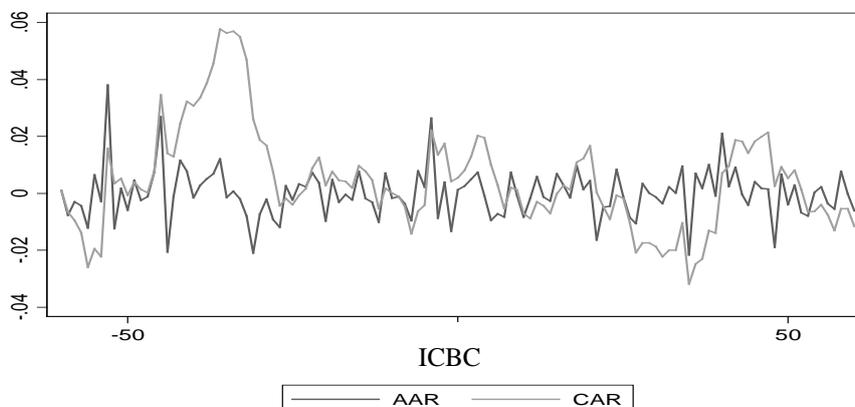


Fig. 6 – Trend of cumulative excess rate of return

It can be seen from Fig.5 and Fig. 6 that the excess return of Citibank is small before and after the merger, and the overall excess return rate improved significantly. The impact of M&A on ICBC is weaker and within a certain range, from excess yields to cumulative excess yields.

It can be seen from the event analysis that the Industrial and Commercial Bank's excess rate of return fluctuated little before and after its merges, the shareholder's earnings were uncertainty, and their interests seemed to be damaged. All are possibly caused by the following reasons. Firstly, the fundamental motivation is to formulate merger plan and participate in the whole process of mergers for government from the perspective of regulating macro economy, promoting financial reform, instead of improving acquisition acquirers' management efficiency and market value. As the real behavior, Industrial and Commercial Bank of China was perhaps in a passive state. The merger for scale at the expense of efficiency damaged the interests of shareholders. Secondly, due to the complexity of cross-border mergers and asymmetry of information, it is likely to bid to high because of underestimating the uncertainty of transaction, costs and risk. At the same time, it's difficult to solve high costs supervision and agency, resulting in the loss of market value(*J.Ma, X.Man,2005*)⁹. In addition, after Citibank's acquisition, its yield sustained a significant growth, which showed that Citibank payed more attention to the post-merger integration. Citibank ever launched a small complementary-typed acquisition strategy, and strengthened the construction of enterprise culture and the propaganda of enterprise concept, which fully showed that promoting merges under the condition of strengthening of internal control and management are necessary and rational. Citibank's merger strategy set a successful example for the integration and management of Chinese banks.

4 Policy proposals

First of all, focus on long-term strategic target. Chinese banks should not only focus on ups and downs of financial data in a short term, but also have a keen insight into development trend of current and future economy and market. Looking from a strategic perspective, they should put forward countermeasures to core interests and the development of banks, and gradually set up the framework of modern international financial organizations.

In the second place, establish an effective market mechanism and improve the external trading environment. Effective capital market, well-developed investment banks and a perfect system of laws and regulations are conducive to the timely pricing for the transaction object, reducing costs of acquisition due to the asymmetry of information, providing effective support for the deal.

Finally, pay attention to integration. It can be seen from Citibank's acquisition that generally, objects it chose are small in asset, capital or size relative to Citibank, conducive to the post-merger integration. Integration after merge is the key to determine the duration of the effect of merger. Chinese banks should learn from the experience of Citibank integration, so as to ensure the continuous improvement of performance of acquisitions.

Acknowledgements

Foundation item: projects supported by National Social Science Foundation "Research on the Performance Test and Path Selection of Cross-Border M&A of Chinese Banks (16BGL045)"

References

1. *D.M.Mueller*, Reasons, Effects and Policies, *International Journal of Industrial Organization*.**7**(1989)1—10.
2. *P.K.Healy, Palepu and R.Ruback*. Which supervision are profitable strategic of financial, *Sloan Management Review*.**38** (1997) 45—57.
3. *X.Zhang*, The theory and empirical study on whether acquisition and reorganization creates value for China's securities market, *Research Project About Shangzheng index*. (2003) 26—37.
4. *Z.Huang, L. Cao*, Research on the market value effected by corporate M&A in China. *China Social Sciences Press, Beijing*, (2013) 53-60.
5. *T.Langetieg*, An application of a three-factor performance index to measure stockholders gain from merger, *Journal of Financial Economics*.**6**(1978) 365-384.
6. *A.N.Berger , L.J.Mester*, What explains differences in the efficiencies of financial institutions inside the black box, *Journal of Bankong and Finance*.**7**(1997) 895-947.
7. *A.B.David*, The vluation effects of bank mergers, *Journal of Corporate Finance*, **6**(2000) 189--214.
8. *L.Chen*, The development and methodology evolution of the empirical research on bank mergers and acquisitions, *Financial Researc*.**1**(2005) 164-17.
9. *J.Ma, X.Man*, The research on the efficiency of transnational mergers and acquisitions of foreign financial institutions and the implications for our banks, *Journal of Financial Research*.**1**(2005)62-68.