

The Comparative Study on Bank Performance of BOCD and PNC

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Abstract: Global economic growth is decelerating by mid-2024, challenged by geopolitical uncertainty, inflation, and central bank interest rate hikes. Emerging markets strive for growth amid global labor skill mismatches and digital transformation, raising employment issues. International trade adjusts to political shifts, and climate policies drive economic change. The global economy faces critical challenges and opportunities, demanding vigilance and adaptability from policymakers and market participants. This study analyzes accounting data from the Bank of Chengdu (BOCD) and PNC Financial Services (PNC) from 2013 to 2022, comparing financial status and performance. PNC shows larger size, higher revenues, profits, EPS, and superior loan performance, while BOCD exhibits higher earnings growth, stronger profitability, and promising future performance. The paper aims to compare the business structure and profitability of U.S. and Chinese financial institutions within the same global economic context but different economic systems, excluding international visibility and trust effects.

Keywords: Financial institution, Slowdown in global economic growth, Comparison

1. Introduction

A bank is a financial institution established in accordance with the law to engage in monetary and credit business. It is a product of the development of the commodity and monetary economies to a certain stage.[1] Banks are divided into central banks, policy banks, commercial banks, franchise institutions, investment banks, and the World Bank, according to their different types and responsibilities.[2] As money-operated enterprises, banks are conducive to the raising and circulation of social capital. By absorbing deposits, banks collect idle monetary assets and small monetary savings in society, and use them to lend money to people who need money, so that banks can act as intermediaries between lenders and depositors. The bank can act as an intermediary payment when handling currency-related payments and settlement transactions for merchants and producers of commodities.[3]

Two sample banks were selected for the study, Bank of Chengdu (BOCD) and PNC Financial Services (NYSE: PNC). Bank of Chengdu Co., Ltd. (hereinafter referred to as "Bank of Chengdu"), established in December 1996, is a state-controlled local joint-stock commercial bank that has introduced Hong Leong Bank as an overseas strategic investment partner. On January 31, 2018, the Bank of Chengdu was listed on the main board of the Shanghai Stock Exchange, becoming the first listed bank in Sichuan Province and the eighth A-share listed city commercial bank in China. PNC

Financial Services (NYSE: PNC) is a U.S.-based financial services corporation, with assets (as of December 31, 2008) of \$1989 billion.[4] PNC operations include a regional banking franchise operating primarily in eight states and the District of Columbia, specialized financial businesses serving companies and government entities, and leading asset management and processing businesses.[5] PNC is America's 5th largest bank by deposits and is the third largest bank off-premise ATM provider in the country.

This article studies the two banks in three ways in the past 10 years. Firstly, it compare bank size and their operating earnings such as sales and profits. Secondly, bank loans are evaluated using different ratios, such as the ratio of non-performing loans and loan losses. Moreover, ratios of loan-to-deposit and capital adequacy are measured at the same time. These ratios are used to assess bank risk and their ability to reduce risk. Thirdly, it calculate banks' profits to analyze whether their profits match with risk and size. The financial analysis of two different banks in China and the United States allows us to understand the differences in the state of economic development between the two countries over a certain period of time. At the same time, we analyze the possible factors other than the economic state that cause the differences, and compare and analyze the profitability and risk resistance of the two financial institutions in the same situation.

2. Basic Summary of the Bank

2.1. Basic Summary for Two Banks from 2013 to 2022

Table 1: Bank Size, Revenues, and Profits

Year	Total Asset		Total Sales		Net Profits	
	BOCD	PNC	BOCD	PNC	BOCD	PNC
2022	91,765,030.50	388,111,389.00	2,024,131.20	14,377,024.00	1,004,307.30	4,207,315.00
2021	76,834,633.70	355,248,266.00	1,789,049.50	12,745,024.00	783,139.70	3,617,572.00
2020	65,243,367.40	304,503,381.00	1,459,960.90	8,956,078.00	602,799.80	4,904,767.00
2019	55,838,573.30	286,229,998.00	1,272,506.00	11,897,211.00	555,575.30	3,745,522.00
2018	49,228,496.20	262,390,431.00	1,159,013.20	11,478,016.00	465,352.60	3,638,182.00
2017	43,453,947.80	248,801,427.00	965,411.80	10,381,537.00	391,282.10	3,487,956.00
2016	36,094,675.70	254,157,806.00	861,038.80	10,217,507.00	258,306.20	2,707,511.00
2015	32,144,533.90	232,791,015.00	895,875.50	9,720,919.00	282,118.20	2,666,272.00
2014	30,022,973.80	211,149,557.00	913,129.10	9,240,914.00	355,234.80	2,560,190.00
2013	26,127,664.70	195,281,268.00	706,826.30	9,370,326.00	297,288.70	2,572,892.00

According to Table 1, from 2013 to 2022, PNC is larger than BOCD every year, and has higher revenues and profits. But their difference in the three variables decreases year by year. For example, the total assets were 195.3 million[4] in 2013 for PNC, and 26.1 million[6] for BOCD, which means PNC is 7.48 times larger than BOCD, however, in 2022, sizes for two banks were 388.1 million[4] and 91.8 million[6], respectively, 4.23 times larger for PNC than BOCD. One reason that can explain the decreased discrepancies in asset size is the larger growth rate in BOCD than in PNC, the average growth rate in size for PNC in the past 10 years is 7.11%, while 13.40% for BOCD. Meanwhile, the growth rate on revenues and profits is also greater for BOCD than for PNC.

2.2. Earnings Per Share compared from 2013 to 2022

The research also obtains data on banks' earnings per share and presents them in Figure 1 as follows:

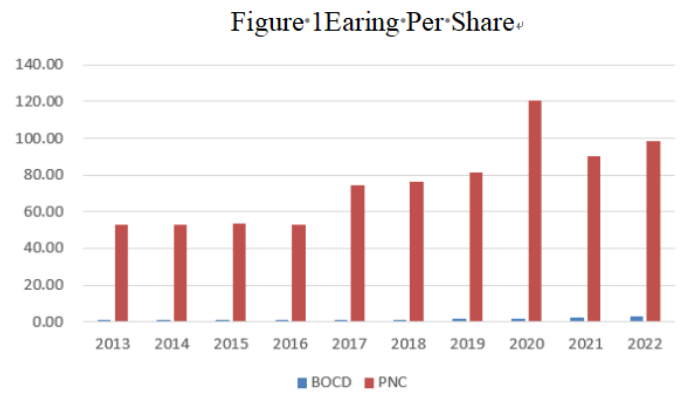


Figure 1: BOCD and PNC's Earning Per Share Comparison

EPS is one of the important indicators to measure the profitability of a company, and it is also one of the important bases for investors to evaluate the value of a company's shares.[7] Generally, the higher the EPS, the stronger the company's profitability and the higher the investment value of the stock. When EPS represents investors' reaction to firms' performance, the higher EPS of PNC reflects that markets have higher confidence in PNC stocks. But one thing that needs to pay attention to is the discrepancies in EPS between two banks relative to those of total assets, as shown in Table 1. When the size of PNC in past years is 4.23 times larger than that of BOCD, the market value is almost 19.7 times larger. And the fluctuation of the EPS of PNC is larger than BOCD.

3. Analysis on Bank Loan and Profitability

3.1. Risk Measurement of Bank Loans

Table 2: Loan performance (%)

Year	Ratio of non-performing loan		Ratio of loan loss		Ratio of loan-to-deposit	
	Bank of Chengdu	PNC	Bank of Chengdu	PNC	Bank of Chengdu	PNC
2013	0.72	1.58	0.11		56.82	86.91
2014	1.19	1.23	0.09		56.88	86.76
2015	2.35	1.03	0.21		55.85	81.91
2016	2.21	1.02	0.42		50.37	80.98
2017	1.69	0.85	0.38		47.53	83.19
2018	1.54	0.75	0.43		52.75	84.47
2019	1.43	0.68	0.63		60.52	83.12
2020	1.37	0.94	0.54		64.70	64.75
2021	0.98	0.86	0.50		72.73	62.00
2022	0.78	0.61	0.48		75.85	73.64

This part measures bank risk from their loans and exhibit result in Table 2.

The research calculates the ratio of non-performing loan, ratio of loan loss, and the ratio of loan-to-deposit of the Bank of Chengdu. Also, the research compare the ratio of loan-to-deposit of these two banks. Firstly, the Bank of Chengdu's NPLs were the first to rise and gradually declined from 2015; PNC's NPL ratio declined yearly since 2013. Bank of Chengdu's NPL ratio is mostly greater than PNC's NPL ratio. We could also learn from the comparison that PNC's LTD (loan-to-deposit) is much higher than Bank of Chengdu, before 2020, which means PNC has stronger profitability than

Bank of Chengdu. However, during 2020, the LTD of PNC dropped sharply, which may be due to COVID-19, but Bank of Chengdu's LTD has grown steadily over the last 10 years.

3.2. Bank Profitability Comparison

Bank profitability is calculated based on three key variables: ROA, ROE and Net profit margins. The formulas are listed as follows:

$$ROA = \frac{\text{Net profits}}{\text{Total assets}} \quad (1)$$

$$ROE = \frac{\text{Net profits}}{\text{Total shareholders' equity}} \quad (2)$$

$$\text{Net profit margin} = \frac{\text{Interest income} - \text{interest expense}}{\text{Total assets}} \quad (3)$$

Bank profitability in Table 3.

Table 3: Bank profitability (unit: %)

Year	ROE		ROA		Net profit margin	
	Bank of Chengdu	PNC	Bank of Chengdu	PNC	Bank of Chengdu	PNC
2013	21.15	10.37	1.14	1.32	42.04	27.50
2014	21.28	9.62	1.18	1.22	38.86	27.86
2015	14.69	9.20	0.88	1.16	31.44	27.68
2016	12.24	8.63	0.72	1.09	29.93	27.06
2017	16.68	11.45	0.90	1.42	40.49	33.91
2018	16.56	11.13	0.95	1.40	40.11	31.97
2019	16.63	11.07	0.99	1.32	43.62	31.77
2020	14.77	14.55	0.92	1.62	41.27	55.06
2021	15.99	10.34	1.02	1.03	43.77	28.64
2022	17.73	11.91	1.09	1.09	49.61	29.61

First of all, Bank of Chengdu's ROE reflects strong profitability and its net profit margin is also much higher than PNC's net profit margin. Second, there is a significant difference between the ROE and ROA values between the two banks. Our analysis suggests that this may be due to the difference between the total assets and total equity of the two banks. In the following, to explore why Bank of Chengdu has a much higher net profit margin than PNC, we compare the difference between the interest income and interest expense of the two banks and come up with the following Figure 2:

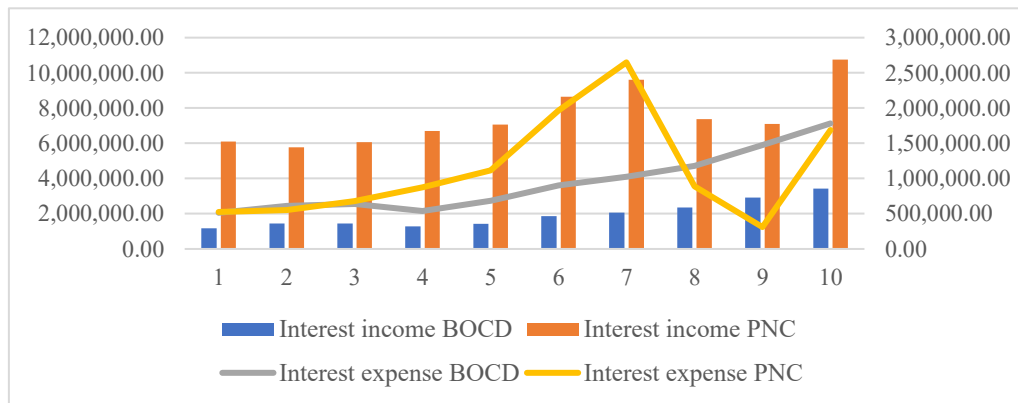


Figure 2: Interest income & expense (Unit: ten thousand CNY)

According to Figure 2, both income and expense on interest are higher in BOCD than those in PNC, and the low net profit margin from PNC is also the result of higher total assets from this bank.

3.3. Other Comparison

This essay also examined the composition of the two banks' main operating income. It found that Chengdu Bank's main business income consists of five components: interest income, loans and advances granted, corporate loans and advances, and personal loan business bill discounting business. Among them, interest income is the source of most of the bank's income. For PNC, on the other hand, its income is broadly composed of three components: interest income, interest income from loans, and investments in securities. From this, it can conclude that both banks derive most of their income from interest.

The paper also did a comprehensive peer comparison analysis. Using data such as total market capitalization, total revenue, net profit, and ROE, PNC and Bank of Chengdu were placed into the U.S. peer group and the Chinese mainland peer group for comparative ranking. Through the analysis, we roughly conclude that PNC is ranked 15 out of 312 peers in the U.S., in the top five percent, while Bank of Chengdu is ranked about 51 out of 126 banks in the mainland, which is in the top forty percent. We believe that Chengdu's low ranking may be due to local banking policies in mainland China, domestic conditions, and Chengdu's development.

3.4. Suggestions

Some suggestions could be provided to improve the performance of both banks:

Both banks should expand their asset base to enhance visibility and opportunities. They must bolster risk reserves, improve capital adequacy, and diversify loan portfolios to mitigate risks. Profitability can be increased through capital efficiency, expense control, and risk management. Bank of Chengdu should diversify beyond interest income by exploring wealth management, investment banking, and insurance to reduce dependency and enhance market competitiveness. Both Bank of Chengdu and PNC should prioritize ESG development, focusing on environmental responsibility, social impact, and governance to promote sustainable practices benefiting financial performance and society. Adopting ESG principles will help these institutions build trust with stakeholders, enhance their reputation, and contribute to the global movement towards a more sustainable future[8]. In doing so, they will align themselves with the growing expectations of investors, regulators, and consumers, ultimately driving their business success in a socially responsible and environmentally-conscious manner.

4. Conclusion

This study conducts a comparative analysis of Bank of Chengdu (BOCD) and PNC Financial Services from 2013 to 2022, focusing on financial metrics such as bank size, revenue, profit, EPS, and loan performance. It includes a risk assessment considering NPLs and loan-to-deposit ratios, alongside profitability indicators like ROA, ROE, and net profit margins. PNC surpasses BOCD in size, sales, profit, and EPS, indicating a larger market presence. However, BOCD shows stronger revenue and profit growth, suggesting rapid expansion and potential long-term profitability. PNC has a better risk profile with a lower NPL ratio and higher loan-to-deposit ratio, indicating superior asset quality and financial stability. PNC ranks higher among U.S. peers, reflecting a stronger competitive position. Despite PNC's advantages, BOCD's profitability ratios highlight its efficient revenue model, generating higher profits relative to assets or equity. Overall, PNC has a stronger market position, but BOCD shows better growth prospects and profitability, emphasizing the importance of scale and profitability metrics in evaluating a bank's financial health.

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