

Analysis of the Investment Value of China's Banking Stocks

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Abstract. In order to thoroughly assess the valuation levels of the stocks of the three banks from three perspectives, this article gathers the financial information and market price information of three Chinese state-owned commercial banks. It then analyzes the stocks of the Chinese banking sector using a variety of indicators, including the price-earnings ratio and the price-to-book ratio. In the recent investment performance, it discusses the changing trend and fluctuation range of its investment value. As the core component of the economic system, the banking industry plays a vital role in the modern financial system. As an intermediary of funds, the banking industry not only facilitates the flow of funds from depositors to investors, enterprises, and individuals, but also plays a role in capital allocation, risk diversification, and credit creation. A stable banking system helps maintain financial stability, promote investment, and create jobs. Therefore, analyzing the value of banking stocks from different angles can provide different types of investors with insight into the financial situation and help them make wise investment decisions.

Keywords: stock investment analysis, China state-owned banks.

1. Introduction

The banking industry has an important position and function in the entire industrial system. First of all, as an intermediary of funds, banks facilitate the flow of funds from depositors to enterprises, individuals, and other financial institutions. Banks provide a variety of financing products and services to support business expansion, innovation, and investment, thereby driving economic growth. In financial markets, banks play the role of risk management. By providing insurance, derivatives, and risk assessment services, banks help businesses and individuals manage market risks and mitigate potential losses.

In China, in addition to the role of general banks, state-owned commercial banks, as the executive body of the central bank, play a key role in the transmission of monetary policy. They implement monetary policy and affect money supply and credit conditions by adjusting tools such as the deposit reserve ratio and interest rates. At the same time, they also play a key role in cross-border RMB settlement and have a strategic position in the national economic system.

The competitiveness of China's mainstream banks is gradually rising. The performance of China's mainstream banks on the 2020 Global Bank 1000 list is particularly eye-catching. Since 2013, the Industrial and Commercial Bank of China has ranked No. 1 for eight consecutive years, and China Construction Bank has ranked No. 2 for seven consecutive years since 2014. The three indicators of Tier 1 capital, total assets, and pre-tax profits have far surpassed their competitors. Although the Industrial and Commercial Bank of China and China Construction Bank lead the world, in addition to these two banks, there are 4 large state-owned commercial banks, Agricultural Bank of China, Bank of China, Bank of Communications, and Postal Savings Bank of China, and 3 China Merchants Bank, Shanghai Pudong Development Bank, and Industrial Bank. Joint-stock commercial banks also entered the top 20 in different lists [1].

It is mentioned in the article "Design Stock Investment Strategies Based on Financial Statements" that the most common method investors use when designing stock investment strategies is to analyze the financial semi-annual reports and annual reports of the target company that are regularly announced. The data on the company's financial statements directly or indirectly reflect the value of the stocks it issues. Investors should fully utilize the role of the financial statements by using this data to estimate the stock movement and choose the timing of entry.[2]. The calculation of this paper also includes the capital asset pricing model. The capital asset pricing model expresses the risk and return

linearly based on the mathematical model. The return on risky assets is equal to the return on risk-free assets plus the return on risky assets. Systematic risk is represented by beta value. The impact of fluctuations in overall market risk on individual assets reveals the theoretical fact that high returns are accompanied by high risks [3].

$$R_e = R_f + \beta \cdot (R_m - R_f) + R_s \quad (1)$$

The market portfolio in the CAPM theory is considered to contain the portfolio of all uncertain assets. Ross pointed out that in the process of asset pricing, not only systematic risk but also unsystematic risk should be fully considered. According to Martins (2022), a number of other factors had a considerable explanatory power for stock returns, and the previously observed positive association between risk and average stock returns vanished [4]. According to the "mystery of idiosyncratic volatility" and the anomaly of financial asset pricing, there is a negative association between expected return and idiosyncratic volatility in the stock market of China [5].

This article aims to analyze the investment value of three Chinese state-owned commercial banks from three aspects and provide a decision-making basis for different types of investors. Market capitalization, beta, and debt ratio were collected for analysis in terms of risk. In terms of profitability, the analysis is carried out by calculating the turnover ratio, profit margins, ROA, and ROE. In terms of market ratios selected, PE, PB, PEG, DCF, FCF, dividend yield, rate of return, and insider buying are analyzed. Based on the analysis of the above data, the following conclusions can be drawn. the agricultural bank of China may be chosen by a value investor, income investor, PEG investor, index investor, DCF investor, or momentum investor. The Industrial and Commercial Bank of China may be bought by value investors, PEG investors, index investors, DCF investors, and momentum investors. The China Construction Bank will be chosen by value investors, PEG investors, index investors, and momentum investors.

The remainder of this paper is organized as follows. Section 1 introduces the motivation for writing this article and the status of the banking industry, reviews the existing research related to bank investment, and briefly introduces the research content, methods, and results of this article. Introduce the structure of this paper. Section 2 introduces the basic information of the three selected banks and the data required for analysis, as well as the decision-making basis of different types of investors. Section 3 calculates and analyzes the collected data from three aspects. The conclusion follows in Section 4.

2. Data Collection

2.1. Basic Information

2.1.1. Industrial and Commercial Bank of China

ICBC was established on January 1, 1984, with its headquarters located in Beijing, China. The Bank was reorganized as a joint stock limited company on October 28, 2005. The Bank successfully went public on both the Shanghai Stock Exchange and the Hong Kong Stock Exchange on October 27, 2006 [6].

ICBC's asset scale has continued to grow, encompassing a strong deposit base, loan operations, financial market transactions, and various other sectors. In the first half of 2022, the total assets of the banking industry will be 367.68 trillion yuan. Among the four major state-owned banks, Industrial and Commercial Bank of China has the highest total assets, reaching 38.74 trillion yuan.

ICBC provides a wide range of financial products and services, including retail banking, corporate banking, international business, and capital market operations. It has an extensive network of branches and business operations both domestically and internationally, catering to individual customers, corporate clients, and institutional clients.

ICBC is a significant driver of China's expansion into the global financial market. It has established numerous branches and subsidiaries worldwide, covering regions such as Asia, Europe, and the Americas, to provide globalized financial services to its customers.

According to Fig.1, the stock price is generally on the rise, the monthly ATR index is 23.55, and the fluctuation is normal. There have been no reversal signals in nearly a year. Affected by the policy, there was a sharp rise in May.



Figure 1. Changes in the share price of ICBC in one year

2.1.2. Agricultural Bank of China

The Agricultural Bank of China (ABC), established on July 10, 1951, is one of the four major state-owned commercial banks in China. The Agricultural Cooperative Bank, founded in 1951, served as the bank's forerunner. The bank has successively gone through many development stages since the end of the 1970s, including a national specialized bank, fully owned by the state commercial bank, and a state-controlled commercial bank. The Bank underwent a restructuring in January 2009 to become a joint stock limited business. The Bank was listed in July 2010 on the Hong Kong Stock Exchange and the Shanghai Stock Exchange, respectively [7].

As a state-owned bank, ABC shoulders the responsibility of supporting the development of rural areas and agriculture in China. Its core mission revolves around providing financial services to rural communities and farmers, thereby fostering the advancement of agriculture and the rural economy.

ABC offers a diverse array of financial products and services spanning retail banking, corporate banking, and international operations, among other domains. The bank boasts an extensive network of branches across the nation, rendering financial support to both rural and urban regions alike. Within China's financial system, the Agricultural Bank of China holds a pivotal position, delivering crucial support for the growth of rural communities and the agricultural economy. On the basis of Fig.2, the stock price has generally shown an upward trend, and after the sharp rise in May, the volatility has become larger than before.

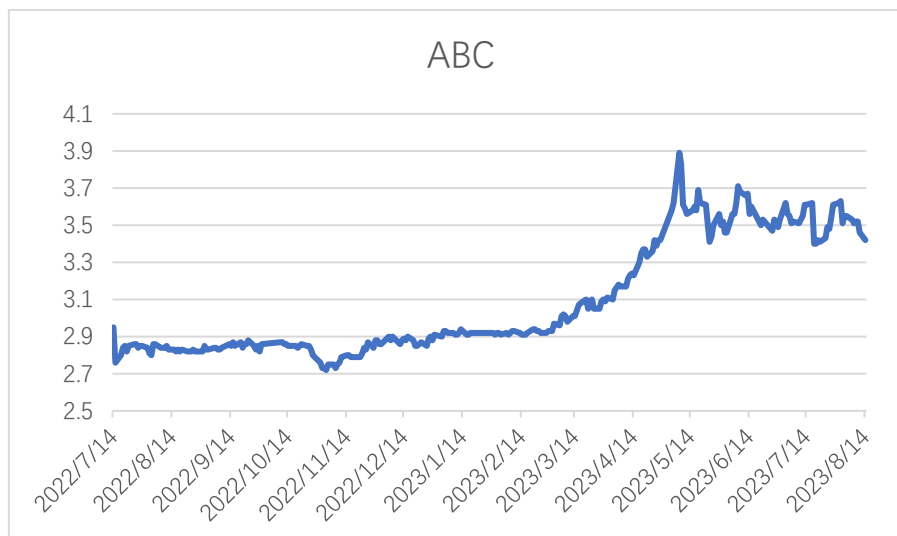


Figure 2. Changes in the share price of ABC in one year

2.1.3. China Construction Bank

China Construction Bank (CCB), established in 1954, is one of the four major state-owned commercial banks in China. Originally founded by the Chinese government, its primary objective was to provide support for national infrastructure development. CCB 's strategic positioning is centered around offering financial support to national infrastructure projects, urbanization initiatives, and the growth of key industries. Consequently, it assumes a critical role in sectors such as urban development, infrastructure, and real estate [8].

CCB offers an extensive range of financial products and services encompassing retail banking, corporate banking, and international operations, among others. Its expansive network of branches spans the entire nation, catering to the financial needs of individual customers, corporate clients, and institutional customers. The stock price has not risen much in the past year, and after a sharp rise in May, the volatility has almost dropped to the original stock price (Fig 3).

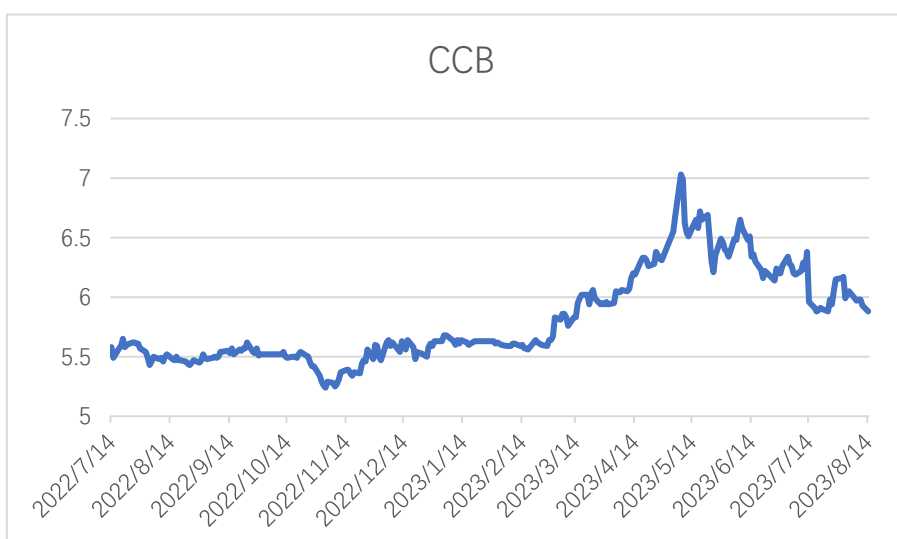


Figure 3. Changes in the share price of ABC in one year

2.2. Decision Basis

2.2.1. Value investing

Value investing is an investment strategy that involves picking stocks that are trading below their intrinsic or book value.

2.2.2. Income investing

Instead of gradually selling their shares to realize financial gains, income investors are more concerned with generating a steady cash flow from their investments.

2.2.3. Index investing

Index investing is a passive investing strategy that aims to provide returns that are comparable to those of a broad market index. By acquiring the securities that make up the index, often a stock or fixed-income index, investors utilize the buy-and-hold approach to mimic the performance of the index.

2.2.4. Profitability Ratios

Profitability looks at an enterprise's productivity from a variety of angles and gives investors context through a range of various situations. In order to understand the profit a firm is making and how that profit connects to other crucial facts about the organization, earnings ratios employ data collected at a certain point in time.

2.2.5. DCF

A method of valuation known as discounted cash flow (DCF) is used to estimate the value of an investment based on its expected return in the future, or future cash flows. The DCF discounted cash flow model to predict the future cash flow and subsequent terminal value of the enterprise, and uses an appropriate discount rate to discount the future cash flow and subsequent terminal value to the evaluation base date, and finally calculates the discounted value of the future cash flow. A model in which the sum is added to the present value of the subsequent final value to obtain the enterprise value [9]. DCF helps to calculate how much an investment is worth today based on the return in the future.

2.2.6. Momentum investors

A strategy called momentum investing is created to profit from the tenacity of current market movements. Using this trading technique, an investor purchases a rising security and sells it when the stock price seems to have peaked.

2.2.7. Insider Buying

Insider buying, which refers to corporate insiders buying illegally on the basis of confidential knowledge, is the acquisition of shares in a corporation by a director, officer, or executive within the company. When a firm executive thinks that the market is undervaluing shares, insider buying may take place. When insiders acquire stock in their own company, it may be a good time to buy the stock as well.

3. Analysis

This part provides a comprehensive analysis of three major banks in China: The Agricultural Bank of China (ABC), the Industrial and Commercial Bank of China (ICBC), and the Bank of China (BOC). The analysis covers three aspects: risk, profitability, and market ratios.

3.1. Risk

3.1.1. Market Capitalization

The market capitalization of ICBC is the highest among the three banks, standing at 1.73 trillion Hong Kong dollars (HKD). ABC and BOC follow with a market capitalization of 1.23 trillion HKD and 1.04 trillion HKD, respectively. This indicates that ICBC is the largest bank in terms of market value.

3.1.2. Beta

The beta coefficient, commonly referred to as the coefficient or risk index, is a tool to evaluate the price volatility of certain stocks or stock funds in comparison to the overall stock market. It can be used to evaluate the securities' systemic risk as well. It is used to gauge a security's or investment portfolio's volatility in relation to the general market. It appears more frequently in investment terminology like stocks and funds [10]. The beta coefficient measures the sensitivity of a stock's returns to the overall market movements. ABC has the lowest beta of 0.43, implying lower volatility compared to the market. ICBC and BOC have betas of 0.42 and 0.53, respectively, indicating similar market sensitivity.

3.1.3. Debt Ratio

ABC maintains the lowest debt ratio at 11.02%, suggesting a conservative approach to financing operations. ICBC and BOC have debt ratios of 10.27% and 11.69%, respectively, indicating efficient debt management in all three banks (Table 1).

Table 1. Risk comparing

Numble	1288.HK-ABC	1398.HK-ICBC	0939.HK-CCB
Market Cap	1.23T	1.73T	1.04T
Beta	0.43	0.42	0.53
Debt ratio	11.02	10.27	11.69

3.2. Profitability

3.2.1. Turnover Ratio (TA T/O)

The turnover ratio evaluates the efficiency of asset utilization. ABC, ICBC, and BOC have similar turnover ratios, all ranging between 0.021 and 0.023. This implies that these banks are efficiently utilizing their assets to generate revenue.

3.2.2. Profitability Margins

All three banks exhibit healthy profit margins, with ICBC having the highest at 48.90%. BOC follows closely at 48.35%, while ABC stands at 44.83%. This indicates that ICBC and BOC are more efficient in converting revenue into profits.

3.2.3. Return on Assets (ROA)

ROA measures how effectively a company utilizes its assets to generate profits. ICBC boasts the highest ROA at 0.91%, followed by BOC at 0.94%, and ABC at 0.77%. This shows that ICBC and BOC are more efficient in generating profits from their asset base.

3.2.4. Return on Equity (ROE)

ROE evaluates a company's ability to generate profits from shareholders' equity. BOC outperforms the other two banks with an ROE of 11.48%, followed by ICBC at 10.39%, and ABC at 9.9% (Table 2).

Table 2. Profitability comparing

Numble	1288.HK-ABC	1398.HK-ICBC	0939.HK-CCB
Total Assets Turnover	0.021	0.023	0.023
Profit Margin	44.83%	48.90%	48.35%
ROA	0.77%	0.91%	0.94%
ROE	9.90%	10.39%	11.48%

3.3. Market ratios

3.3.1. Valuation Ratios (PE, PB, PEG)

ABC, ICBC, and BOC have relatively low Price-to-Earnings (PE) ratios, suggesting that these banks are undervalued by the market compared to their earnings. BOC has the lowest PE ratio of 1.26, followed by ICBC at 1.4, and ABC at 1.3. All three banks have low Price-to-Book (PB) ratios, indicating that their stock prices are not significantly higher than their book values. BOC has the lowest PB ratio of 0.36, followed by ICBC at 0.35, and ABC at 0.33. Additionally, the PEG ratios for all three banks are below 1, indicating that their stocks may be undervalued relative to their expected earnings growth.

3.3.2. Dividend Yield

All three banks offer attractive dividend yields, with BOC having the highest at 8.8%, followed by ABC and ICBC, both at 8.19%. This makes them attractive options for income-seeking investors.

3.3.3. Discounted Cash Flow (DCF) and Free Cash Flow (FCF):

BOC has the highest DCF value of 3.38, followed by ICBC at 3.48, and ABC at 4.96. This implies that BOC may be undervalued compared to its expected future cash flows. Regarding FCF, all three banks have comparable values, with BOC leading at 3.77, followed by ICBC at 3.74, and ABC at 3.46.

3.3.4. Rate of Return

BOC has the highest rate of return at 8.53%, followed by ABC at 5.81%, and ICBC at 5.21%. This indicates that BOC may be more attractive in terms of generating returns for investors.

3.3.5. Insider Buying

ICBC has the highest insider buying activity at 59.98%, indicating that insiders are confident about the bank's future prospects (Table 3).

Table 3. Market ratios comparing

Numble	1288.HK-ABC	1398.HK-ICBC	0939.HK-CCB
PE	1.3	1.4	1.26
PB	0.33	0.35	0.36
PEG	0.63	0.62	0.49
Dividend yield	8.19%	8.19%	8.80%
Growth rate	15.56%	7.63%	16.82%
DCF	4.96	3.48	3.38
FCF	3.46	3.74	3.77
Rate of return	5.81%	5.21%	8.53%
50-Day moving average	2.924	4.032	4.854
200-Day moving average	2.769	4.012	4.879
Insider buying	4.15%	0.00%	59.98%

4. Conclusion

As a major participant in the financial market, investors need to have an in-depth understanding of the development trend of China's banking industry, market competition pattern, financial status, and the investment value of each bank. In particular, in the context of global economic uncertainty and heightened market volatility, it has become particularly important to correctly assess the investment value of Chinese banking stocks. This paper mainly adopts the following research methods: data collection and sample selection, selection of analysis Indicators, and indicator analysis.

According to the above data and analysis, we can conclude that the agricultural bank of China may be chosen by value investors, income investors, PEG investors, index investors, DCF investors, and momentum investors. The Industrial and Commercial Bank of China may be bought by value

investors, PEG investors, index investors, DCF investors, and momentum investors. The China Construction Bank will be chosen by value investors, PEG investors, index investors, and momentum investors.

Although this study has made some useful discoveries in analyzing the investment value of Chinese banking stocks, there are still some deficiencies worth noting. Due to the dynamic nature of the market environment and economic situation, the analysis results of this study may be affected by time factors. These factors may have an important impact on the value of stock investment, but this study failed to fully consider them. Secondly, there may be some subjective factors in the selection of analysis indicators and sample banks in this study, which may affect the objectivity and general applicability of the analysis. Future research can be further carried out in the following directions to make up for the shortcomings of current research such as sentiment analysis, cross-market comparison, and qualitative research methods.

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