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# EVA Performance Evaluation Analysis and Improvement Path of ICBC

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Abstract: With the constant change of the economic environment, the state has strengthened the supervision of financial institutions, and the original monopoly pattern of commercial banks has been further broken under the change of policies. In this context, this paper analyzes the profitability of Industrial and Commercial Bank of China (ICBC) through its basic financial statements in the past five years, investigates its comprehensive capacity based on EVA, studies the value of commercial banks, and puts forward relevant improvement measures. This is of great significance to its sustainable development.

Keywords: ICBC; Economic Value Added; Performance; Commercial Bank

# 1. Introduction

In the face of the great changes in the competitive environment and financial structure, taking effective measures to enhance the competitiveness of China's commercial banks is not only directly related to the survival and development of large commercial banks but also profoundly affects the safety and stability of China's entire economic and financial system. Since its establishment, ICBC has always played an important role in the development of the national economy as a capital supplier to state-owned industrial and commercial enterprises. Known as "the largest bank in the universe", ICBC is the most profitable bank in China and plays an irreplaceable role in promoting the restructuring of state-owned enterprises and the steady development of the economy.

Economic Value Added (EVA) method can not only evaluate enterprise value and business performance in a standard way, but also be an important factor to promote the effective organization of the bank and truly reflect the value of the bank. It connects the wealth of shareholders with the decision-making of the enterprise and carries out scientific decision-making guidance and implementation. Nowadays, many large enterprises have introduced EVA management system, which is long-sighted for business performance.

As for the research on EVA performance assessment indicators, many domestic scholars have studied and analyzed the significance of EVA to domestic enterprises and banks from different perspectives. Yang (2006) has taken EVA as the core to select the indicators that can reflect the asset management ability, profitability, solvency and sustainable development ability of commercial banks through factor decomposition, and give them different weights through sensitivity analysis to build a financial indicator system. In the analysis of the value creation capability of China's banking industry, Gao and Fan (2003) proposed that EVA return rate (EVA-SPREDA) can be used to better measure the business performance of enterprises and evaluate the value created by the banking industry according to the specific situation of China's banking industry. And the data point out that the capital utilization efficiency of state-owned commercial banks has a great impact on the sustainable development ability of China's economy. Zhou *et al.* (2016) made risk adjustment on EVA model and broke through the limitations. Their study pointed out that the adjusted model could better measure the business performance of enterprises with different risk types. For different enterprises, EVA indicators are different, and research conclusions are also different. It is of great significance to adjust the calculation of EVA index reasonably according to the nature of enterprises.

# 2. Theoretical Analysis of EVA

# 2.1. The Definition of EVA

EVA is a business performance assessment tool to evaluate the ability of enterprise operators to effectively use capital and create value for shareholders and reflect the ultimate business objectives of enterprises. The basic idea of EVA is that only when the income of an enterprise exceeds the opportunity cost of invested capital can it truly create value for the enterprise. The opportunity cost can be expressed by the minimum rate of return. EVA is positively correlated with value creation. If EVA is positive, the income created by the enterprise exceeds the minimum rate of return, and the enterprise creates value for shareholders. If EVA is negative, the enterprise reduces shareholder value and destroys enterprise value.

# 2.2. The Basic Formula for EVA

EVA is the residual income after deducting cost of equity and cost of debt from after-tax net operating profit. Cost of equity is the opportunity cost of occupying investors' capital. The formula is:

EVA = Net Operating Profit After Tax (NOPAT) - Total Cost of Capital (TC) \* WeightedAverage Cost of Capital (WACC) (1) (1)

# 3. Profitability Analysis of ICBC

# 3.1. Overview of Profitability Status

In recent years, due to the impact of the epidemic, the growth rate of credit business of domestic banks has slowed down, and banks are faced with increasing credit risks and declining profitability. But in the long run, large domestic banks are less affected by its fluctuations and have good resistance. However, in the era of constantly changing economic situation, the transformation of residents' consumption mode and concept is also affecting the profitability of the banking industry (Zhao, 2019). By analyzing the financial indicators of ICBC, problems were found and the improvement path was put forward in combination with EVA theory.

# 3.2. Profitability Analysis in the Past Five Years (2017~2021)

# 3.2.1. Return on Equity (ROE) (2017~2021)

Figure 1 shows that from the financial data of recent five years, the ROE of ICBC has a downward trend from 2017 to 2021. From 2017 to 2019, net assets yield was greater than 13%, and has fallen by 1.1% in 2020, indicating that banks' ability to generate profits from their own capital needs to be strengthened, especially under the significant impact of the epidemic. Since 2021, the epidemic in China has been controlled, the domestic economy has recovered, and banks have increased investment and financing in the real economy. It shows that the profitability of banks has improved, asset quality has remained stable, and the prospects are good.





# 3.2.2. Return on Total Assets (2017~2021)

Figure 2 shows a slow decline on total assets of ICBC from 2017 to 2021. Affected by the epidemic in 2020, there is a significant decrease of 0.08%. This shows that ICBC's input-output level has declined, even without the cause of the epidemic, there are certain problems in fund operation.



Figure 2. Return on Total Assets of ICBC (2017~2021).

# 3.2.3. Non-Performing Loan Ratio (NPLR) (2017~2021)

As can be seen from Figure 3, ICBC's non-performing loan ratio remained high and there were certain problems. It peaked at 1.58% in 2020, indicating that bank increased the amount of non-performing loans when bank was unable to repay its debts.



Data Sources: Industrial and Commercial Bank of China A-shares annual report. Figure 3. Non-Performing Loan Ratio of ICBC (2017~2021).

# 3.2.4. Cost-Income Ratio (2017~2021)

The cost-income ratio, which reflects how much a bank spends on each unit of revenue, should be no higher than 45%. As can be seen from Figure 4, the ratio from 2017 to 2020 is decreasing year by year, and the ability to capture revenue is increasing. However, it increased by 1.67% in 2021, indicating certain profit problems.



Data Sources: Industrial and Commercial Bank of China A-shares annual report. Figure 4. Cost-Income Ratio of ICBC (2017~2021).

# 3.2.5. Capital Adequacy Ratio (CAR) (2017~2021)

Figure 5 shows that the capital adequacy ratio of ICBC has steadily improved, rising by 2.88% from 2017 to 2021. This indicates that bank can well adapt to the complex financial market and the impact of the epidemic, improve its financing capacity, and prevent possible losses in the future (Sun, 2018).





# 4. Empirical Study on the Application of EVA in ICBC

# 4.1. EVA Adjustment

There are two original calculation methods of EVA: one is the adjustment of EBIT<sup>1</sup> and the other is the adjustment of accounting profit after tax. However, banks generally earn profits by absorbing deposits and issuing loans, and their own funds are small. Under such high financial leverage, it is difficult to estimate WACC. In addition, the size of EBIT and ROIC cannot be accurately estimated. At the same time, considering the particularity of commercial banks in the financial industry, the formula needs to be adjusted when introducing EVA to measure commercial banks (Zhou, 2014).

# 4.1.1. Calculation of NOPAT of Industrial and Commercial Bank of China in 2017~2021

Net operating profit after tax refers to the profit before interest and after tax after deducting the income tax of the company based on the cash basis. It is the after-tax profit obtained by the company's operation without involving capital structure, reflecting the profitability of the company's assets. The adjusted formula is:

NOPAT = Net Profit + Assets Devaluation	
+(Nonoperating Income – Nonoperating Expenditure)	
* (1 – Income Tax Rate) + Increase in Deferred Taxes	(2)

Time	2017	2018	2019	2020	2021
Net Profit	287,451	298,723	313,361	317,685	350,216
Assets Devaluation	161,584	161,594	178,957	202,668	202,623
Net Nonoperating Income and Expenditure	2,799	1,226	1,221	744	1,335
Increase in Deferred Tax Liabilities	(391)	784	656	1,008	2,743
Increase in Deferred Tax Assets	7,332	9,983	4,161	5,177	11,546
NOPAT	443,467	452,098	489,790	516,787	545,144

Table 1. ICBC NOPAT calculation result (Unit: Million Yuan).

Data Source: Industrial and Commercial Bank of China A-shares annual report and author calculation.

4.1.2. Calculation of TC of Industrial and Commercial Bank of China in 2017~2021

Total cost of capital refers to the total amount invested in the operation of an enterprise, including debt capital and equity capital. Due to the particularity of commercial banks with high liabilities, the cost of liabilities should be classified as operating expenses. Therefore, the adjustment part of TC mainly includes asset

<sup>&</sup>lt;sup>1</sup> Earnings Before Interest and Tax= Net Profit +Income Tax +Interest

impairment provision, non-recurring profit and loss, deferred income tax and so on (Liu & Zheng, 2015). The adjusted formula is:

TC = Equity + Balance of Assets Devaluation at Year - End + Balance of Year - End Deferred Tax Liabilities - Balance of Year - End Deferred Tax Assets. (3)

Time	2017	2018	2019	2020	2021
Equity	2,141,056	2,344,833	2,692,003	2,909,515	3,275,258
Balance of Assets Devaluation at Year-End	36,973	52,037	62,353	69,157	81,394
Deferred Tax Liabilities	433	1,217	1,873	2,881	5,624
Deferred Tax Assets	48,392	58,375	62,536	67,713	79,259
TC	2,130,070	2,339,712	2,693,693	2,913,840	3,283,017

Table 2. ICBC TC calculation result (Unit: Million Yuan).

Data Source: Industrial and Commercial Bank of China A-shares annual report and author calculation.

4.1.3. Calculation of WACC of Industrial and Commercial Bank of China in 2017~2021

In this paper, the one-year yield rate is regarded as risk-free rate of return (Jiang, 2019). Due to the short development history of China's securities market, the market risk premium adopts the GDP growth rate as the market risk premium of the current year (Liu & Deng, 2015). The adjusted formula is:

 $WACC = Risk free Rate of Return + Market Risk Premium * Risk Factor (<math>\beta$ ) (4)

Time	2017	2018	2019	2020	2021
β	-0.026	0.741	0.503	0.428	0.137
Risk-free Rate of Return	1.5%	1.5%	1.5%	1.5%	1.5%
Market Risk Premium (GDP)	6.9%	6.7%	6%	2.3%	8.1%
WACC	1.32%	6.46%	4.52%	2.48%	2.61%

Table 3. ICBC WACC calculation result.

Data Source: CCER Data, State Statistics Bureau and author calculation.

# 4.2. EVA Calculation of ICBC in Five Years (2017~2021)

## 4.2.1. Calculation Results

According to Formula (1), EVA values of ICBC in each year from 2017 to 2022 are calculated as shown in Table 4. In order to better reflect the performance and profitability of ICBC, this paper introduces the index of return on economic value added (REVA), which can exclude the impact of bank size on performance and facilitate the performance comparison between banks of different sizes (Wu, 2014).

REVA refers to the economic added value that a bank can create per unit of capital invested, and its formula is as follows:

$$REVA = EVA/TC \tag{5}$$

Table 4. ICBC EVA calculation result (Unit: Million Yuan).

Time	2017	2018	2019	2020	2021
NOPAT	443,467	452,098	489,790	516,787	545,144
TC	2,130,070	2,339,712	2,693,693	2,913,840	3,283,017
WACC	1.32%	6.46%	4.52%	2.48%	2.61%
EVA	415,350	300,953	368,035	444,523	459,457
REVA	19.50%	12.86%	13.66%	15.26%	14.00%

Data Source: The author collated and calculated.

## 4.2.2. EVA analysis

As can be seen from Figure 6, EVA of ICBC showed a downward trend from 2017 to 2018. In the following three years, in the face of economic pressure and the impact of COVID-19, ICBC increased year by year, indicating that ICBC still can resist and create value under the impact.

From the perspective of profitability, indicators such as NOPAT and WACC comprehensively consider the asset scale, intermediate income and continuous amortization of various expenses of commercial banks. Therefore, the stability of banks' earnings under EVA model is more meaningful than traditional accounting indicators (Lin, 2012).

As the most profitable Chinese company in the Fortune 500, ICBC has a high net operating profit after tax, which is prominent in NOPAT index. Besides, it also shows that it is obviously affected by the market environment, and the overall development trend is steady (Sun, 2018).





It can be seen from Figure 7 that the trend of REVA of ICBC in recent five years is different from that of EVA in the same year. The REVA of ICBC decreased significantly from 2017 to 2018, and then rose slowly to 15.26% in 2020. Different from EVA, REVA shows a declining trend between 2020 and 2021.

The data reflects that ICBC no longer has scale advantage after putting forward the scale factor, indicating that ICBC needs to adjust in scale expansion and management technology matching in terms of scale benefit. Otherwise, problems that are difficult to manage and coordinate will lead to frequent diseconomies of scale.



**Figure 7.** REVA of ICBC (2017~2021).

# 5. Calculation of EVA Value of Other Commercial Banks in 2021

According to the calculation formula and method above, two Chinese commercial banks are selected accordingly to calculate the EVA value in 2021.

## 5.1. NOPAT for Other Commercial Banks in 2021

The NOPAT calculation results of other commercial banks in 2021 are shown in Table 5.

Bank	Net Profit	Assets Devaluation	Net Nonoperating Income and Expenditure	Increase in Deferred Tax Liabilities	Increase in Deferred Tax Assets	NOPAT
China Merchants Bank	120,834	393	154	(208)	8,746	112,398
China Construction Bank	303,928	766	(364)	(156)	(607)	303,640
Agricultural Bank of China	241,936	114	68	321	9,672	232,750

Table 5. NOPAT for other commercial banks in 2021 (Unit: Million Yuan).

Data Source: Each bank A-shares annual report, China Stock Market & Accounting Research Database and author calculation.

# 5.2. TC for Other Commercial Banks in 2021

The TC calculation results of other commercial banks in 2021 are shown in Table 6.

Bank	Equity	Balance of Assets Devaluation at Year-End	Deferred Tax Liabilities	Deferred Tax Assets	TC
China Merchants Bank	810,688	304,598	(1,353)	81,639	1,032,294
China Construction Bank	2,614,122	680,115	(1,395)	92,343	3,200,499
Agricultural Bank of China	2,421,359	11,238	(655)	143,027	2,288,915

**Table 6.** TC for other commercial banks in 2021 (Unit: Million Yuan).

Data Source: Each bank A-shares annual report, China Stock Market & Accounting Research Database and author calculation.

# 5.3. WACC for Other Commercial Banks in 2021

The WACC calculation results of other commercial banks in 2021 are shown in Table 7.

Bank	β	Risk-free Rate of Return	Market Risk Premium (GDP)	WACC
China Merchants Bank	0.928	1.5%	8.1%	9.02%
China Construction Bank	0.259	1.5%	8.1%	3.60%
Agricultural Bank of China	0.046	1.5%	8.1%	1.87%

Table 7. WACC for other commercial banks in 2021.

Data Source: Each bank A-shares annual report, China Stock Market & Accounting Research Database and author calculation.

## 5.4. EVA for Other Commercial Banks in 2021

The calculation results of EVA, REVA and ROE for other banks are shown in Table 8.

	Table 8. EVA for other	commercia	l banks in 2021	(Unit: Million	Yuan).
nk	NOPAT	ТС	WACC	EVA	REVA

Bank	NOPAT	ТС	WACC	EVA	REVA	ROE
China Merchants Bank	112,398	1,032,294	9.02%	19,285	1.87%	16.96%
China Construction Bank	303,640	3,200,499	3.60%	188,422	5.89%	12.55%
Agricultural Bank of China	232,750	2,288,915	1.87%	189,947	8.30%	11.57%

Data Source: Each bank A-shares annual report and author calculation.

# 5.5. EVA for Other Commercial Banks in 2021

Comparison of EVA, REVA and ROE of ICBC and three other commercial banks in 2021 is listed in Table 9. As the EVA value is related to the size of the bank, it can be seen from Table 9 that as a large state-owned commercial bank in China, ICBC has significant advantages, and its EVA value is much different from

that of the other three commercial banks. Although its ROE is very different from the other three commercial banks, from the perspective of REVA, ICBC has excellent value creation ability.

EVA	REVA	ROE
459,457	14.00%	12.15%
19,285	1.87%	16.96%
188,422	5.89%	12.55%
189,947	8.30%	11.57%
	EVA 459,457 19,285 188,422 189,947	EVA         REVA           459,457         14.00%           19,285         1.87%           188,422         5.89%           189,947         8.30%

Table 9. EVA for other commercial banks in 2021 (Unit: Million Yuan).

Data Source: Each bank A-shares annual report and author calculation.

## 6. Improvement Suggestion

As an operational performance evaluation index widely used by western banks, EVA is introduced into the management system of China's commercial banks, which not only promotes commercial banks to improve their system and enhance their core competitiveness, but also guides China's financial industry to gradually prosper. Therefore, in order to successfully establish EVA management system, it is necessary to combine external and internal conditions at the same time to improve the value creation ability of the bank and create wealth for shareholders to the maximum (Sun, 2012).

## 6.1. Change of Operating Mode

Based on the particularity of commercial banks, it is crucial to reduce the cost of capital in order to maximize the returns of shareholders. We will actively promote the transformation of banks to economical mode of operation, develop intermediate business, and improve the efficiency of capital use.

## 6.2. Enhanced Risk Management

At present, China's commercial banks have diversified organizational structure, lack of vitality of functional headquarters and imperfect risk management system. Therefore, it is suggested to take customers as the center and business as the business chain of vertical operation mode, enhance risk control ability, supervise business activities of enterprises, reduce the non-performing loan ratio, and improve EVA.

# 6.3. Develop EVA-Based Performance Evaluation System

The formulation of EVA-based evaluation system is conducive to the bank managers to connect their shareholders' interests with the long-term goals of the bank operation, and to some extent to curb the high-risk and high-return operation behavior, and to promote the steady and long-term development of the bank and increase shareholder value.

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