The Application of DuPont Analysis Method in China Construction Bank

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Abstract: With the continuous development of the economy and society, and also due to the sudden attack of the epidemic, the development of commercial banks in the national economy is facing a dangerous situation, so how to improve and upgrade themselves has become the primary goal. This paper takes China construction bank as the main body, gives the analysis of the earnings data from 2019 to 2021, using the DuPont analysis of the profitability of the construction bank to analyze its profits, liabilities and inventory turnover and other specific situation, reveals the financial problems existing in the development, to promote the improvement of enterprise management ability and the improvement of financial situation. This paper finds that due to the uncontrollable factors of the epidemic, CCB must strengthen its response capacity, formulate corresponding backup strategies for the possible impact of the epidemic, and optimize and stabilize its own financial structure.

Keywords: DuPont analysis system, China Construction Bank, profits, financial statement analysis

1. Introduction

With the continuous development of the economy and society, and also due to the sudden attack of the epidemic, the development of commercial banks in the national economy is facing a dangerous situation, so how to improve and upgrade themselves has become the primary goal. This paper takes China construction bank as the main body, gives the analysis of the earnings data from 2019 to 2021, using the DuPont analysis of the profitability of the construction bank to analyze its profits, liabilities and inventory turnover and other specific situation, reveals the financial problems existing in the development, to promote the improvement of enterprise management ability and the improvement of financial situation. This article helps analyze the impact of the epidemic on China Construction Bank and the strategies to deal with it, helping more enterprises to take preventive measures.

2. An Overview of the DuPont Analysis System

DuPont financial analysis method (Du Pont Analysis) is to use the relationship between several major financial ratios to comprehensively analyze the financial situation of enterprises. This analysis method was first used by DuPont company in the United States, so it is called DuPont financial analysis method. Different from other financial analysis methods, DuPont analysis has its

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originality in the concept of financial analysis, and this originality makes DuPut analysis can help enterprises to understand the internal financial state of the enterprise in a more intuitive way. Thus, the adjustment of the operation strategy of the enterprise itself is of great help to the promotion of the market competitiveness of enterprises [1]. Its basic idea is the enterprise return on equity as the core index, combining solvency, asset operation ability, profitability, analysis, layer upon layer, constitute a complete analysis system, comprehensive, intuitive and systematically reflect the financial situation of the company, its goal is to track the factors affecting return on equity, to meet investors, operators and other related personnel and institutions through financial analysis performance evaluation, understand the cause of the main benefit index change[2]. It provides management with a clear roadmap to examine the efficiency of company asset management and maximize shareholder returns on investment.

From the net interest rate gradually decomposed to the most basic factors of production The use of the cost of the composition and enterprise risk, clear hierarchy, organized Convenience for stakeholders to understand the operation and profitability of the enterprise [3]. Return on equity is the starting point of the whole analysis system, which reflects the ability of its own capital to obtain net income. The level of this index reflects the profitability of the net assets of investors. The calculation formula is as follows:

Return on equity = ratio of asset return to return equity multiplier

Where: equity multiplier = total assets of shareholders' equity

Return rate on assets = operating net profit rate = asset turnover rate

Thus, the return on equity is closely related to the net interest rate of operating income and the asset turnover rate of the enterprise, while the net interest rate of operating income is closely related to the operating income, cost and capital structure. Therefore, in order to maximize the return on equity, we must coordinate these financial factors.

3. The DuPont Financial Analysis of China Construction Bank

China Construction Bank full name China Construction Bank, founded in 1954, in 1996 On March 26,2000, the original People's Construction Bank, is China One of the four major commercial banks is also the second largest commercial bank in mainland China Bank, belongs to the national professional bank. Its business scope mainly includes the national capital construction Grant, manage and supervise the use of capital construction funds determined by the state plan, and package Credit fund loans, resident savings deposits, foreign exchange business, credit card business, to cover the key links of enterprise mergers and acquisitions, such as the calculation of synergistic effect [4]. According to the annual financial report of China Construction Bank from 2019 to 2021, and combined with the DuPont analysis method, the basic financial data are collated, as shown in Table 1.

Table 1: Some financial indicators of China Construction Bank in 2019-2021.

(unit: RMB 100 million)

	2021 year	2020 year	2019 year
general assets	302539.79	281322.54	254362.61
operating receipt	8242	7559	7056
net margin	3039	2736	2692
net margin	26100	23900	22400

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Now according to the DuPont analysis system, its financial data are analyzed specifically. The return on equity of CCB from 2019 to 2021 was calculated, and the main influencing factors of the fluctuation of return on equity are analyzed.

As shown in Table 2, CCB's return on equity in 2020 and 2021 was lower than the 12.62% level in 2019, up from 11.72% in 2020, and slightly recovered to 12.09% in 2021. Because the return on equity is the result of asset return rate and equity multiplier, and then specific analysis.

Table 2: Related indicators of CCB return on equity from 2019-2021.

(unit: RMB 100 million)

	2021 year	2020 year	2019 year
Operating net profit ratio	36.70%	35.86%	37.80%
asset turnover	0.028	0.028	0.029
Asset remuneration rate	1.04%	1.01%	1.10%
equity multiplier	11.625	11.60	11.47
Return on equity	12.09%	11.72%	12.62%

3.1. An Analysis of the Return on Equity

Return on equity can reflect the impact of CCB capital on its profitability. This index is a key indicator starting from the perspective of investors and reflecting the return of the assets that investors invest in the bank. This index analyzes the profitability of the bank's ability. In the analysis, the return on equity is specifically dismantled into three elements: the main business profit margin and total assets Turnover rate and equity multiplier. These three indicators respectively represent the ICBC profitability ratio, the asset management ratio, and the debt ratio, so as to further study the reasons for the changes in the profitability of commercial banks [5].

from：Return on equity (ROE) = return on assets (ROA)×equity multiplier (EM)

2019year：ROE=1.10%×11.47=12.62%

2020year：ROE=1.01%×11.60=11.72%

2021year：ROE=1.04%×11.625=12.09%

Through the decomposition of the return on equity, from 2019 to 2021, the equity multiplier (capital structure) of CCB has increased slightly year by year, from 11.47 to 11.625, which is still relatively stable. Then, the decline in return on assets is the main reason for the decline in return on equity in 2020 and 2021.

Further analysis of the asset return rate indicators:

from：Rate of return on assets = operating net profit ratio periodic rate of assets

2019year：Asset remuneration rate=37.80%×0.029=1.10%

2020year：Asset remuneration rate=35.86%×0.028=1.01%

2021year：Asset remuneration rate=36.70%×0.028=1.04%

In 2019, the operating net profit margin was 37.80%, down to 35.86% in 2020, and rising to 36.70% in 2021, but still lower than in 2019. Meanwhile, the asset turnover ratio in 2020 and 2021 was the same and lower than in 2019, resulting in their lower return to assets ratio than in 2019. It can be seen from the above analysis that a higher operating net profit ratio can effectively improve the return ratio of assets. The decline of the return ratio of assets in 2020 and 2021 is mainly caused by the decline of the operating net profit ratio, so the operating net profit ratio is further analyzed.

3.2. The Analysis of the Operating Net Profit Ratio

From the DuPont Analysis System method:

Operating net profit ratio = net profit operating income

Net Income = Revenue-Cost expense

According to the 2019 to 2021 annual report of CCB, the financial indicators related to the operating net profit ratio are shown in Table 3. The operating net profit margin is determined by net profit and operating income, while the net profit margin is closely related to income and costs.

According to the cost data listed in Table 3, the cost is mainly composed of business and management fees and credit impairment loss. Based on 2019, business and management fees did not change much in 2020, but credit impairment loss increased (1935), while business and management fees increased in 2021, but credit impairment loss decreased (1679). In addition, in 2020, net income and fair value changes in asset impairment losses declined significantly, with-126.06% and-783.69% respectively, which is mainly due to the economic downturn caused by the sudden occurrence of the epidemic, and people no longer choose to keep money in the bank but in their own hands to ease the panic and insecurity caused by the epidemic. In 2021, both the net income from fair value changes and asset impairment losses have significantly increased (1,123.59% and 121.50%, respectively), exceeding the 2019 data. This is mainly because the state supports banks, and because of the spread and spread of the epidemic, tourism and restaurants, people have nowhere to go and put their money back in banks. The rest of the cost is relatively small, do not repeat. The above factors have a significant impact on the total operating expenses, which increased by 10.55% and 6.42% in 2020 and 2021, respectively.

According to the revenue data listed in Table 3, the total revenue in 2020 and 2021 increased by 7.12% and 9.05%, respectively, compared with 2019, which is mainly caused by the increase in net interest income, which accounts for a relatively large proportion. The rise in revenue has increased CCB's net profit in 2020 and 2021.

Therefore, as a result, while the income increases slightly, the cost is also increasing. Although the net profit has been improved, the return on assets and return on equity still cannot recover. Therefore, while the operating income rises slightly, the cost is also increasing to a greater extent. The social environment and economic conditions are not as good as before, and they are the reason for the tortuous fluctuations of the return on equity.

Table 3: Related indicators of CCB operating net profit margin in 2019-2021.

(unit: RMB 100 million)

	2021 year	Increase or decrease of% from 21th to 19	2020 year	Increase or decrease by% from the 20th to the 19th	2019 year
Net income from interest	6054	+5.12%	5759	+7.23%	5371
Net income from fees and commissions	1215	+6.03%	1146	+3.32%	1109
net investment income	239.21	+23.03%	194.44	-5.38%	205.49
Net income from changes in fair value	65.51	+1123.59%	-6.4	-126.06%	24.56
exchange earning	73.33	+39.36%	52.62	+13.97%	46.17
Other business income	595.29	+44.13%	413.01	+37.47%	300.43
Total revenue	8242	+9.05%	7559	+7.12%	7056

Table 3: (continued).

Business tax and surcharge	77.91	+6.36%	73.25	+8.09%	67.77
Business and management fees	2099	+17.04%	1793	-0.12%	1795
Credit impairment loss	1679	-13.20%	1935	+18.71%	1630
Loss of asset impairment	7.66	+121.50%	-35.62	-783.69%	5.21
Other business costs	591.00	+40.55%	420.50	+45.77%	288.46
Total operating expenses	4455	+6.42%	4186	+10.55%	3787
net margin	3039	+11.09%	2736	+1.62%	2692
Operating net profit ratio	36.70%	+2.34%	35.86%	-5.13%	37.80%

4. Conclusion

In conclusion, this paper uses DuPont analysis to analyze the financial statements of CCB from 2019 to 2021 in 2021, and points out the deficiencies and what can be improved. On the one hand, we should strengthen the cost management. First, CCB should explore the new methods of cost management, analyze the existing problems in the operation process and product design, seek new cost management methods, and strive to control the cost from the source. Second, CCB should cultivate the cost management culture, establish the concept of "saving and increasing efficiency", call on all staff to participate, comprehensive cost management, optimize the cost structure, in order to increase the profit [6]. In addition, due to the uncontrollable factors of the epidemic, CCB must strengthen its response capacity, formulate corresponding backup strategies for the possible impact of the epidemic, and optimize and stabilize its own financial structure. Financial innovation is the inexhaustible driving force for bank operation and development. Only continuous theoretical innovation, product innovation and business renewal can meet the changing needs of the market [7]. This paper only cites the financial statement data for 2019-2021 for shallow analysis, not deep enough, just to study the impact of the epidemic, but also can cite more data to study how to reduce costs and improve profits.

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