

Research on the Chinese Aviation Industry Financial Problems and Suggestions During COVID-19 Pandemic—Take China Southern as an Example

Shaofeng Zhang

¹Guangzhou College of Technology and Business, School of Management, Guangzhou, China, 51000

*Corresponding author. Email: 1641986657@qq.com

ABSTRACT

Due to the extensive blockade caused by the COVID-19 pandemic, the financial situation of Chinese airlines has deteriorated. This paper mainly adopts the methods of literature research and case study. Through literature reading, this paper studies the development of the COVID-19 and the impact of the pandemic on the aviation industry. With the case study, China Southern was selected as the study case and the financial data for 2018-2021 was selected. The data comes from the company's annual report and the Wind database. The research finds that China Southern has problems such as high debt repayment risk, reduced profitability and weakened development ability and puts forward suggestions including stabilizing cash flow, reducing operating costs, actively innovating products, and expanding its own business, hoping to help the company overcome the development difficulties and wait for the aviation industry to fully recover. The case of China South are relatively representative for Chinese aviation industry which can reflect how a typical china aviation company reacts to such an unprecedented global crisis. The in depth analysis of financial situation provides referential information on how pandemic crisis has influenced China Southern, by analyzing its financial status and financial difficulties, and proposes corresponding solutions.

Keywords: China Southern, Financial Situation, COVID-19

1. INTRODUCTION

In December 2020, the novel coronavirus (COVID-19) outbreak in China and then accelerated its spread to the whole country. Affected by the pandemic, airline passenger traffic has fallen precipitously. In 2021, the domestic pandemic situation improves but the foreign pandemic situation is still severe and the domestic pandemic will be normalized for prevention and control, so airline passenger traffic has still not fully recovered. Airlines have the characteristics of strong cycles, heavy assets, low profits, and high risks, which are greatly affected by the pandemic. Therefore, how airlines can survive the pandemic has become a topic worthy of research. This paper selects China Southern, one of the three state-owned aviation groups, as a research subject to conduct a financial analysis of its 2018-2021 financial data to find the financial problems of the enterprise and proposes targeted solutions.

This article has enriched relevant researches on the financial situation of the aviation industry in the face of

the sudden situation of the pandemic. Due to the sudden outbreak of the pandemic, relevant research is insufficient. The most similar to this pandemic is the SARS outbreak in 2003. There are certain experiences to learn from, but the pandemic has its particularities. It spreads faster and spreads more widely[1], so it has a greater impact on the aviation industry. The earliest research on the COVID-19 pandemic and the aviation industry focused on the relationship between the aviation network and the spread of the COVID-19 pandemic [2][3], and subsequent studies also focused on the impact of the pandemic on the aviation industry and employment in the airline industry[8].

2. IMPACT OF THE COVID-19 PANDEMIC ON THE AVIATION INDUSTRY

The outbreak of the COVID-19 pandemic firstly was in China in December 2019, with rapid spread, widespread and high concealment, and the government has taken strong measures to prevent the pandemic, such as economic shutdown and home isolation. For air

transport, the government has introduced stricter rules, including personal temperature screening, requiring passengers to provide nucleic acid testing reports, improving cabin cleaning frequency and quality, reducing meals, and so on, which, while effectively curbing the spread of the pandemic, have had a fatal impact on the economy especially aviation industry[7][9][10]. According to the Civil Aviation Authority, China's passenger traffic will plummet by 30.3% in 2020 compared to 2019, with a total loss of nearly 100 billion yuan in total profits. In 2021, the pandemic shifted to normal prevention and control, and domestic air travel resumed, with Civil Aviation Authority data showing that the industry completed 10,195.1 million passenger trips in January-March 2021, an increase of 37.5% over the same period in 2020[6]. However, as the foreign epidemic situation is still severe, the immune barrier has not yet been fully established, international travel restrictions are still strict, and there is greater uncertainty.

Air travel mainly includes business travel and personal leisure travel. Due to the prohibition of large-scale gatherings, the cancellation of some exhibitions and marketing activities, and the strict epidemic prevention policies of some companies, the frequency of business travel has dropped significantly. In addition, with the deepening of digital transformation and the maturity of remote office related technologies, it has further dampened the enthusiasm of business people for long-distance travel. Companies such as Google and Facebook have allowed employees to work from home permanently, without having to go to the company for non-emergency matters. It is expected that more companies will follow this trend in the future. For personal leisure travel, with the improvement of the domestic epidemic situation, domestic short-distance tourism has gradually recovered. The Ministry of Culture and Tourism announced the domestic tourism data for the first half of 2021. In the first half of 2021, the total number of domestic tourist arrivals was 1.871 billion, an increase of 100.8% over the same period of the previous year, and has recovered to 60.9% in the same period in 2019[5]. However, the existence of transnational bans has left international routes in a semi-paralysed situation.

3. CHINA SOUTHERN FINANCIAL INDICATORS ANALYSIS

3.1. Basic Description of China Southern

China Southern is the airline with the most transport aircraft, the most developed route network, and the largest annual passenger volume in China. It is one of China's three major state-owned aviation groups, headquartered in Guangzhou. The company's main business covers passenger, freight and postal transport, of which passenger transport contributes more than 70% of the company's revenue. In recent years, China Southern has vigorously built two comprehensive international aviation hubs "Beijing-Guangzhou", covering more than 40 countries and regions, 224 destinations, more than 1,000 air routes, and more than 500,000 seats[4].

3.2. Analysis of China Southern's Financial Indicators

3.2.1. Solvency Analysis

Solvency is an important measure of a company's financial health. The current ratio, quick ratio, and cash interest ratio are common short-term solvency indicators, and the debt-to-asset ratio is a long-term solvency indicator. Among them, it is generally believed that when the current ratio is greater than 2, the quick ratio is greater than 1, the short-term solvency of the enterprise is good. As you can see from Table 1, China Southern's current ratio and quick ratio are much smaller than 1. After the outbreak of epidemic, the two ratios declined significantly, indicating a further deterioration in the short-term solvency of enterprises. Although 2020 and 2021 have returned to pre-pandemic levels, the current and quick ratios in 2021 remained below the warning line 1. In a horizontal comparison, China Southern's 2019 current and quick ratios have fallen sharply, well below China Eastern and Air China's, but have recovered in 2020 and 2021, when its short-term solvency was better than the other two airlines. Changes in the cash interest ratio also convey a corresponding message. It is generally believed that the long-term solvency of an enterprise is better at 40%-60% of the debt-to asset ratio. After the outbreak of pandemic, China Southern's debt-to-asset ratio was greater than 70%, and the long-term solvency of the business declined. As of June 2021, the debt-to-asset ratio is lower than that of China Eastern and Air China and long-term solvency is better than that of peers.

To sum up, China Southern's solvency is better than the other two aviation enterprises, but all ratios are higher than the warning value, so there are still short-term and long-term debt repayment risks.

Table 1. The solvency indicators for China's three state-owned aviation enterprises for 2018-2020

	2018			2019			2020			June 30,2021		
	China Southern	China Eastern	Air China	China Southern	China Eastern	Air China	China Southern	China Eastern	Air China	China Southern	China Eastern	Air China
Current ratio	0.29	0.22	0.33	0.18	0.25	0.32	0.41	0.23	0.25	0.39	0.34	0.27
Quick ratio	0.27	0.19	0.30	0.16	0.22	0.29	0.39	0.20	0.22	0.37	0.32	0.25
Cash interest ratio	0.09	0.01	0.11	0.02	0.02	0.12	0.27	0.08	0.08	0.24	0.17	0.11
Debt-to-asset ratio(%)	68.30	74.93	58.74	74.87	75.12	65.55	73.98	79.85	70.50	71.84	82.03	73.18

3.2.2. Profitability Analysis

Profitability is generally measured by ratios such as sales profit margin, return on equity, etc. As the pandemic occurred at the end of 2019, the impact of the pandemic on airline profitability in 2019 was small, but it had a significant impact on 2020 profitability. As can be seen from Table 3.2, China Southern's profitability in 2019 was slightly lower than in 2018, but the indicators

turned from positive to negative in 2020, with more serious losses. In contrast to peers, China Southern's all ratios outperformed China Eastern and Air China in 2020.

To sum up, due to the epidemic, China Southern suffered losses, but its profitability was restored in 2021; compared with its peers, the loss was relatively small.

Table 2. Profitability indicators for China's three state-owned aviation enterprises for 2018-2020

	2018			2019			2020			June 30,2021		
	China Southern	China Eastern	Air China	China Southern	China Eastern	Air China	China Southern	China Eastern	Air China	China Southern	China Eastern	Air China
Gross margin(%).	10.45	10.90	15.82	12.09	11.30	16.84	-2.53	-20.74	-8.82	-0.56	-14.24	-10.59
Sales profit margin(%).	2.41	2.56	6.00	2.01	2.88	5.33	-12.77	-21.41	-22.76	-7.69	-15.55	-20.38
Return on assets (%).	1.49	1.27	5.30	1.12	1.34	5.16	-3.74	-4.44	-4.69	-	-	-
Return on equity (%).	5.51	4.93	8.17	4.22	5.43	7.09	-15.77	-19.60	-16.86	-	-	-

3.2.3. Operation Capability Analysis

Operation capacity is generally measured by the turnover rate of accounts receivable, inventory and total assets. China Southern's three major turnover rates continued to decline from 2018-2021, indicating slower recovery of accounts receivable, slower turnover of inventory and total assets, and weaker operating capacity of the business. In contrast to peers, the company's accounts receivable was higher than Air China, below China Eastern, and inventory turnover and

total asset turnover were higher than Air China and China Eastern.

To sum up, China Southern's operation capacity has been severely affected by the pandemic, but its overall operation capacity is better than that of its peers.

Table 3. Operation capacity indicators for China's three state-owned aviation enterprises for 2018-2020

	2018			2019			2020			June 30,2021		
	China Southern	China Eastern	Air China	China Southern	China Eastern	Air China	China Southern	China Eastern	Air China	China Southern	China Eastern	Air China
Accounts receivable turnover	51.30	64.64	25.45	50.40	76.76	22.71	32.25	41.28	15.55	15.92	22.68	11.27
Inventory turnover	77.45	49.53	67.46	75.54	49.21	56.96	51.96	31.74	38.27	29.13	19.27	19.93
Total asset turnover	0.62	0.50	0.57	0.56	0.47	0.51	0.29	0.21	0.24	0.16	0.12	0.13

3.2.4. Development Capability Analysis

The development ability of an enterprise reflects the growth status of an enterprise. This paper uses two indicators, the growth rate of operating income and the growth rate of net profit, to measure it. It can be seen from Table 3.4 that China Southern's operating income growth rate in 2020 turned from positive to negative, and from negative to positive in 2021, indicating it has been greatly affected by the pandemic. Compared with its peers, except that the growth rate of operating

income in 2021 was slightly lower than that of China Eastern, it is overall better than its peers.

From 2018 to 2020, China Southern's net profit growth rate was negative. Affected by the pandemic in 2020, the growth rate of net profit has dropped significantly, a decrease of 497.85% compared with 2019. Compared with its peers, China Southern's net profit growth rate in 2020 is lower than that of China Eastern and Air China. In summary, China Southern's net profit growth space is limited and its development capability is relatively weak.

Table 4. Operation capacity indicators for China's three state-owned aviation enterprises for 2018-2020

	2018			2019			2020			June 30,2021		
	China Southern	China Eastern	Air China	China Southern	China Eastern	Air China	China Southern	China Eastern	Air China	China Southern	China Eastern	Air China
Operating income (millions)	143,623	114,930	136,774	154,322	120,860	136,181	92,561	58,639	69,504	51,576	34,710	37,664
Net profit (millions)	2,983	2,709	7,336	2,651	3,195	6,409	-10,842	-11,835	-14,409	-4,688	-5,208	-6,786
Revenue growth rate(%)	12.66	12.99	12.70	7.45	5.16	-0.43	-40.02	-51.48	-48.96	32.37	38.13	27.05
Net profit growth rate(%).	-49.56	-57.35	1.33	-11.13	17.94	-12.65	-508.98	-470.42	-324.85	42.65	39.03	28.12

4. FINANCIAL PROBLEMS AND POLICY SUGGESTIONS

4.1. High Debt Repayment Risk

As analyzed above, although improvements have been made in 2021, China Southern's current ratio and quick ratio is much less than 1 and its debt-to-asset ratio is greater than 70%. In the short term, the current assets of enterprises cannot cover the current liabilities, so there is a short-term debt service risk. In the long run, the asset-liability ratio of enterprises is too high, indicating the risk of long-term debt repayment risk is high.

To solve the problem, ensuring the stability of the cash flow of enterprises is the first we should resolutely implement the "cash is king" policy. Internally, China Southern can reduce operating costs by selling idle assets when necessary, cutting unnecessary expenses such as business entertainment, marketing expense, and so on. Externally, companies should seek a variety of financing options, and it is important to maintain good relations with financial institutions and seek interest-free or low-interest loans because banks refuse to lend to companies with financing difficulties in times of economic hardship. At the same time, enterprises can issue bonds, targeted issuance and other means to obtain cash flow, in order to supplement liquidity and debt repayment, to ease the pressure on debt financing. In addition, companies can actively cooperate with the government, applying to the government for financial assistance programs and credit facility guarantees if necessary.

4.2. Profitability

As analyzed above, the profitability of companies is greatly affected by the pandemic. Both 2020 and January to June in 2021 are at a loss, and the gross profit margin, net profit margin, return on total assets and return on equity are negative. From January to June of 2021, the profitability of the company has recovered, and its losses have rapidly narrowed compared with its peers.

Actively innovate products can enhance marketing and profitability. In 2020, in response to the pandemic, airlines led by China Eastern launched a "fly-as-you-go" product, which was once snapped up. China Southern has also launched its own "fly-as-you-go" and "fly happily" products, to some extent to alleviate the decline in passenger traffic and inadequate seat occupancy problem. Foreign airlines have also launched "purposeless tour" (take-off and landing at the same airport, no landing halfway), "air table games" and many other products and have achieved a warm response. The success of products such as

"fly-as-you-go" illustrates the market's recognition of such products, and China Southern can further introduce such innovation products to meet market demand in the future to improve its marketing and profitability.

4.3. Development Capacity

As mentioned above, due to the impact of the pandemic, the growth rate of corporate operating income and net profit have fallen sharply. Prior to the pandemic, the growth rate of net profit was negative, indicating that the slowdown in corporate development capabilities has long begun. After the outbreak of the pandemic, this problem has become more serious due to a sharp drop in airlines' carrier volume. In 2020, operating income dropped by 40.02% year-over-year. In the first half of 2021, the growth rate of domestic operating income has recovered, with a year-over-year increase of 87.60%. However, due to the pandemic prevention and control, overseas is still in a state of suspension, and overseas operating income has fallen by 25.58% year-over-year.

Although the pandemic has affected passenger travel, it has created other demands such as freight. In the early stages of the pandemic, the civil aviation department established a "green channel" for the transportation of emergency supplies, and China Southern, China Eastern and a number of postal enterprises invested in a large number of cargo charter flights to carry out emergency transportation work. In the latter part of the pandemic, overseas demand for China's pandemic prevention materials is huge, air transport has become the most convenient and fast way to transport materials such as China Eastern seized the opportunity of overseas vaccine transportation and accepted vaccine transportation orders from multiple countries to increase its own revenue. In 2020, freight revenue accounted for only 17.82% of China Southern's overall revenue, and there was still room for growth. China Southern can seize this opportunity to enhance its freight capacity by creating smart logistics and providing personalized services. In addition, the company can also actively focus on other needs, expand its own business, and achieve diversification of operating income sources. For example, it is difficult for international students to purchase air tickets for returning home and going abroad, airlines can launch customized charter services to improve their own profitability and at the same time assume the social responsibilities of state-owned enterprises and enhance their brand image.

5. CONCLUSION

This article analyzes the financial situation of China Southern under the influence of the pandemic, selects data for 2018-2021, and analyzes it from both vertical and horizontal dimensions. China Southern's

profitability and development have been hampered by the pandemic. But as the pandemic is brought under further control, the company's financial situation improved. The pandemic is temporary, China Southern can seek development opportunities in this crisis, enhance its service capacity, seek diversified sources of income and turn the crisis into an opportunity to stand out in the post-pandemic industry.

Like most research, this article also has its limitations. The major limitation is the limitation of case study as well as the minor sample size of the quantitative research. Despite the careful selection of a well-known company China Southern, the diversity of the aviation industries, and also the variation of the COVID-19, require further verification in order to achieve generalizability.

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