

# Analysis of China Southern Airlines (600029) Stock Investment Value

Anni Hu, Qingqing Zhang, Jianan Sui, Chen Yang, Ruiyang Li  
Shandong University of Science and Technology, Jinan 250031, China.

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**Abstract:** At the beginning of 2019, the outbreak of the new crown epidemic had a huge impact on China's civil aviation industry. As a result, the national civil aviation industry was affected and suffered losses. This has also accelerated the adjustment of the domestic civil aviation industry, especially the adjustment of China Southern Airlines' internal structure and strategic goals. This paper analyzes the macroeconomic situation and industry status of China Southern Airlines, uses the net present value method and capital asset pricing model to evaluate the investment value of China Southern Airlines stock, and gives investment suggestions. The research found that the stocks of China Southern Airlines affected by the epidemic in the past two years have not performed well and need to be cautiously invested. This is not a good time to buy. If you hold related stocks, it is recommended to sell.

**Keywords:** China Southern Airlines; Stock Investment Value Analysis; Capital Asset Pricing Model

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## 1. Company Profile

China Southern Airlines Group Co., Ltd., headquartered in Guangzhou, was officially established on February 1, 1991. The annual passenger volume of China Southern Airlines ranks first in Asia and third in the world; its fleet size ranks first in Asia and fourth in the world. It is the airline with the most flights, the densest route network and the largest annual passenger volume in China. In 2021, affected by the epidemic, China Southern Airlines will rank fourth on the loss list.

Domestic and approved international and regional air passenger, cargo, mail, luggage transportation business, general aviation business, etc. Air passenger transport business is the main business of the company. It has a wide range of operations, is known by most Chinese people, and has a high reputation.

## 2. Analysis of Macroeconomic Situation

Since 2019, as the country's economic development has entered a stable period, the civil aviation industry has also shifted from the original high-speed growth to a steady growth period. However, the outbreak of the new crown epidemic at the beginning of the year had a huge impact on China's civil aviation industry, thus accelerating the adjustment of the domestic civil aviation industry. Specifically, the impacts are as follows: First, due to the impact of the epidemic, the operation of the first half of the year basically failed, and the recovery of international routes in the second half of the year is not optimistic.

The airline industry structure is being reshaped. Under the epidemic, governments at all levels have adopted various measures to help airlines cope with difficulties. However, in the case of a comprehensive crisis in the aviation industry, some airlines will still be unable to survive, which will bring my country's civil aviation industry restructuring of the layout.

In the third quarter of 2022, the profitability of the air transport industry will further deteriorate. Affected by the prevention and control of the epidemic, the total operating income of air transport companies continued to decline year-on-year, and the operating profit margin further deteriorated. As of the end of the third quarter of 2022, the air transport industry's current ratio and cash short-term debt have both decreased compared with the end of the previous quarter, and the overall short-term debt repayment pressure has increased; the average total debt capitalization ratio has increased slightly, and the debt burden is heavy.

## 3. Industry Analysis

Civil air transportation is an important part of my country's modern comprehensive transportation system. At present, due to the

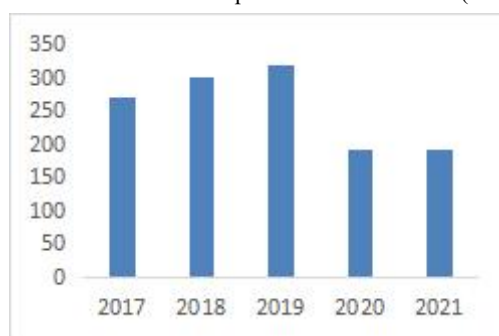
high capital and qualification barriers in the civil aviation transportation industry, most of the participating enterprises in my country's civil aviation transportation industry are state-owned enterprises, among which China Southern Airlines, China Eastern Airlines and Air China are the three leading enterprises.

Table 1 Comparison of leading enterprises in China's civil aviation transport industry in 2021 (unit: aircraft, 100 million ton-kilometers, %, 100 million yuan)

Index value	China Southern Airlines	China Eastern Airlines	Air China
Fleet number	878	758	746
Total transport turnover	212.11	162.16	193.68
Comprehensive load factor	63.28%	55.42%	55.53%
Operating income	1016.44	671.27	745.32

On the whole, the COVID-19 epidemic in 2020 will have a greater impact on China Southern Airlines' transportation volume. The total turnover of transportation in 2020 will be 20.796 billion ton-kilometers, which is only 63.7% of that in 2019. After entering 2021, China Southern Airlines' traffic has recovered slightly, transporting a total of 21.211 billion ton-kilometers for the year, a year-on-year increase of 2%.

Table 3 2017-2021 Total Turnover of Air Transport in China Southern (unit: 100 million ton-kilometers)



## 4. Financial analysis of the company

### 4.1 Earnings per share

According to the income statement and share capital of China Southern Airlines, it can be found that due to the impact of the epidemic, China Southern Airlines' net profit has been negative for the past three years, and the amount of additional shares issued is relatively small. As a result, earnings per share are negative and decreasing.

### 4.2 Profitability

The reporting days of the past three quarters show that the company's net profit margin on total assets presents a decreasing trend. However, in the latest reporting period on September 30, 2022, the company's net profit after deducting non-recurring gains and losses was -18322000000, compared with -12630000000 reported on December 31, 2021, indicating that the company's net profit within nine months Negative but relative improvement.

## 5. Stock investment value analysis and investment advice

### 5.1 Net present value method

According to the principles of financial asset valuation, the current value of a financial asset is the sum of the present values of all future cash flows generated by the asset converted at the required rate of return.

$$\text{That is, } PV = CF_1 / (1+r_1) + CF_2 / (1+r_2)^2 + CF_3 / (1+r_3)^3 + \dots + CF_t / (1+r_t)^t, \text{ ①}$$

Among them,  $CF_t$ : represents the cash flow of period  $t$ ;

$r_t$ : Indicates the discount rate (necessary rate of return) of the cash flow in period  $t$ .

For investing in stocks, the future cash flow mainly refers to the dividends of stocks. Assuming that the discount rate in all periods is the same, according to formula ①, we can get:

$$PV = D_1 / (1+R) + D_2 / (1+R)^2 + D_3 / (1+R)^3 + \dots + (D_t + P_t) / (1+R)^t, \text{ ②}$$

Among them, PV: Indicates the intrinsic value of the stock at the beginning of the period;

D<sub>t</sub>: represents the dividend per share expressed in cash at the end of period t;

R: Indicates the appropriate discount rate (necessary rate of return) for cash flow under a certain degree of risk.

Now analyze the stock of China Southern Airlines (600029) according to formula ②:

A. According to the income statement of China Southern Airlines (600029):

Table 4 Net Profit

Years	2022	2021	2020
Net profit (ten thousand yuan)	-1813500	-510000	-854600

Net income for the next five years from now is calculated as the average of the previous three years, and so on.

$$\text{Net income for the next year} = (-1813500 - 510000 - 854600) / 3 = -1056367$$

$$\text{Net income for the next two years} = (-1056367 - 1813500 - 510000) / 3 = -1326745$$

$$\text{Net income for the next three years} = (-1326745 - 1056367 - 1813500) / 3 = -1841119$$

$$\text{Net income for the next four years} = (-1841119 - 1326745 - 1056367) / 3 = -2021783$$

$$\text{Net income for the next five years} = (-2021783 - 1841119 - 1326745) / 3 = -2403810$$

A. According to the balance sheet of China Southern Airlines (600029):

Table 5 Total share capital

Years	2022	2021	2020
Total share capital (10,000 shares)	1812089	1694844	1532930

The total share capital in the next five years from now is calculated on the basis of the average value of the previous three years, and so on.

$$\text{Total share capital in the next year} = (1812089 + 1694844 + 1532930) / 3 = 1679954$$

$$\text{Total share capital in the next two years} = (1679954 + 1812089 + 1694844) / 3 = 1728962$$

$$\text{Total share capital in the next three years} = (1728962 + 1679954 + 1812089) / 3 = 1740335$$

$$\text{Total share capital in the next four years} = (1740335 + 1728962 + 1679954) / 3 = 1716417$$

$$\text{Total share capital in the next five years} = (1716417 + 1740335 + 1728962) / 3 = 1728571$$

B. According to the dividend distribution table of China Southern Airlines (600029):

Table 6 Dividends Divided

Years	2022	2021	2020
Dividends distributed (yuan)	0	0	0

Therefore, the dividends distributed in the next five years from now will be 0 yuan.

C. Dividend per share is calculated according to (net profit/total share capital/2+dividend divided)

$$\text{Dividend per share for the next year (D1)} = -1056367 / 1679954 / 2 + 0 = -0.3144$$

$$\text{Dividend per share for the next two years (D2)} = -1326745 / 1728962 / 2 + 0 = -0.3837$$

$$\text{Dividend per share for the next three years (D3)} = -1841119 / 1740335 / 2 + 0 = -0.5289$$

$$\text{Dividend per share for the next four years (D4)} = -2021783 / 1716417 / 2 + 0 = -0.5889$$

$$\text{Dividend per share for the next five years (D5)} = -2403810 / 1728571 / 2 + 0 = -0.6953$$

D. The average market rate of return is 2.6%, that is, R=2.6%. According to formula ②, we can know:

$$PV = -0.3144 / (1+2.6\%) - 0.3837 / (1+2.6\%)^2 - 0.5289 / (1+2.6\%)^3 - 0.5889 / (1+2.6\%)^4 - 0.6953 / (1+2.6\%)^5 = -2.3041$$

$$NPV = PV - P_0, \text{ ③}$$

Among them, P<sub>0</sub> is the current price;

Then the net present value (NPV) of China Southern Airlines (600029) can be obtained according to formula ③:

$$NPV = PV - P_0 = -2.3041 - 7.68 = -9.9841 < 0$$

According to the net present value analysis, because the net present value of the stock is negative, the investment return is

not high. It is not recommended to buy, if you hold the stock, it is recommended to sell.

## 5.2 Capital Asset Pricing Model (CAPM)

The capital asset pricing model assumes that all investors invest according to Markowitz's asset selection theory, and the estimates of expected return, variance and covariance are exactly the same, and investors can borrow freely.

$$E(ri)=Rf+\beta(E(rm)-Rf)$$

Among them,  $E(ri)$  is the expected rate of return of the asset;

where  $Rf$  is the risk-free rate;

Among them,  $\beta$  is [Beta coefficient], which is the systematic risk of assets;

where  $E(rm)$  is the expected market rate of return for market  $m$ ;

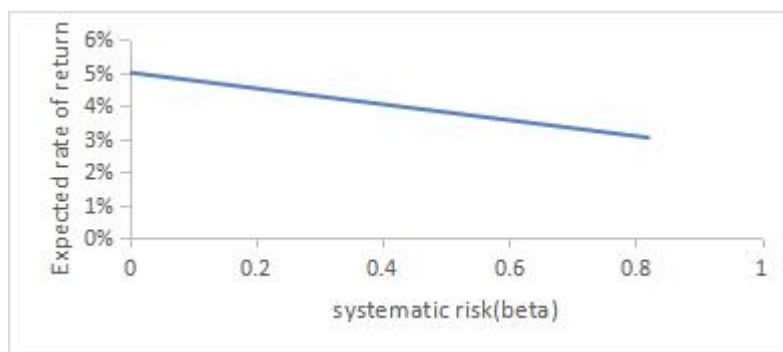
$(E(rm)-Rf)$  is the market risk premium, which is the difference between the expected market rate of return and the risk-free rate of return.

After investigation, the air transport industry's  $\beta=0.82$ ,  $Rm=2.6\%$ ,  $Rf=5\%$ .

$$E(ri)=Rf+\beta(E(rm)-Rf)=5\%+0.82*(2.6\%-5\%)=3.032\%$$

It can be seen from this that the expected return rate of this stock is low, and the expected return rate of stocks with good normal performance is 12%-15%, so it is not recommended to buy in theory, and it is recommended to sell if you hold this stock.

Table 7 Capital Asset Pricing Model



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