Research on Fuzhou Logistics Development Status under the Background of National Logistics Hub City Construction

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Abstract. In the national logistics hub layout and construction plan, Fuzhou city is listed as the carrier city of the national logistics hub layout, which brings new opportunities to promote the comprehensive transportation development of Fuzhou city, improve the national logistics level, realize the optimization and upgrading of industrial structure and open economy. This paper analyzes the current status of logistics development in Fuzhou, the regression model is used to predict the future freight volume of Fuzhou city, combined with the predicted results, the paper puts forward some countermeasures for the better development of logistics industry in Fuzhou.

1. Introduction

In order to implement the decisions and plans of the CPC central committee and the state council on strengthening the construction of logistics and other infrastructure networks, and to promote the layout and construction of national logistics hubs in a scientific way, the development and reform commission, the ministry of transport and other relevant departments worked out and published the "plan for the layout and construction of national logistics hubs" on December 24, 2018. According to the plan, Fuzhou is listed as a national logistics hub bearing city, which is of great significance for promoting the comprehensive transportation development of Fuzhou, improving the national logistics level, optimizing and upgrading the industrial structure, and developing an open economy.

2. Forecast of total freight volume of Fuzhou logistics

2.1. Regression analysis of Fuzhou's GDP and social freight volume

At present, Fuzhou city has formed a comprehensive transport system with ports, airports as the leading, sea, railway, road, air and other modes of transport connected with each other, the layout and construction of comprehensive transport network and transport capacity has begun to take shape.

From 2010 to 2018, the freight logistics in Fuzhou maintained a steady and rapid growth. In 2018, the city's freight transport volume reached 280.93 million tons, an increase of 1.88 times over that of 2010. The freight transport was mainly by road and water transport, among which road freight accounted for 64% of the city's total freight and water freight accounted for 34% of the city's total freight.
Table 1. Annual GDP of Fuzhou, total consumer goods, total social freight volume.

| Year | Project | GDP/Billion yuan | Total social consumption / Billion yuan | Total social freight volume/ Ten thousand tons |
|------|---------|-----------------|----------------------------------------|---------------------------------------------|
| 2010 |         | 3068.21         | 1624.28                                | 14910.62                                   |
| 2011 |         | 3734.78         | 1896.77                                | 16032.34                                   |
| 2012 |         | 4218.29         | 2259.03                                | 17211.86                                   |
| 2013 |         | 4678.5          | 2681.72                                | 19539.58                                   |
| 2014 |         | 5169.16         | 3062.94                                | 21037.21                                   |
| 2015 |         | 5618.1          | 3488.74                                | 27109                                      |
| 2016 |         | 6197.77         | 3763.14                                | 26108                                      |
| 2017 |         | 7104.02         | 4193.87                                | 27040.2                                    |
| 2018 |         | 7856.81         | 4666.46                                | 28093                                      |

Data source: statistical bulletin of Fuzhou's national economic and social development, Fuzhou statistical yearbook, 2010-2018.

SPSS was used to carry out one-variable linear regression analysis on freight volume and GDP of Fuzhou city, and the results were as follows:

The linear correlation equation:
\[ Y = 5245.64 + 3.146X \] (1)

The complex correlation coefficient:
\[ R^2 = 0.88 \] (2)

The complex correlation coefficient is relatively high, which indicates that the linear correlation between the GDP of Fuzhou city and the total freight volume of Fuzhou city is good, and the linear relationship between the two can be used to predict the freight volume. According to the outline of the 13th five-year plan for Fuzhou's national economic and social development, the GDP growth rate of Fuzhou is expected to reach 9%. Therefore, the GDP of Fuzhou is calculated from 2019 to 2025, and then the logistics freight volume of Fuzhou is predicted. The predicted results are shown in table 2.

Table 2. Forecast value of freight volume of Fuzhou in 2019-2025.

| Year | GDP / Billion yuan | Total social freight volume/ Ten thousand tons |
|------|-------------------|-----------------------------------------------|
| 2019 | 8563.92           | 32187.74                                      |
| 2020 | 9334.68           | 34612.53                                      |
| 2021 | 10174.80          | 37255.55                                      |
| 2022 | 11090.53          | 40136.45                                      |
| 2023 | 12088.68          | 43276.62                                      |
| 2024 | 13176.66          | 46699.41                                      |
| 2025 | 14362.56          | 50430.24                                      |

2.2. Regression analysis of total social consumer goods and social freight volume in Fuzhou

SPSS was used to carry out one-yuan linear regression analysis of freight volume and total social consumer goods in Fuzhou, and the results were as follows:

The linear correlation equation:
\[ Y = 6978.94 + 4.858X \] (3)

The complex correlation coefficient:
\[ R^2 = 0.933 \] (4)

The complex correlation coefficient is relatively high, which indicates that the total amount of social consumer goods in Fuzhou has a good linear correlation with the total social freight volume of Fuzhou. According to the outline of the 13th five-year plan for Fuzhou's national economic and social development, it is estimated that the growth rate of Fuzhou's total social consumer goods will reach...
Therefore, the total amount of social consumer goods in Fuzhou from 2019 to 2025 is calculated, and then the logistics freight volume of Fuzhou is predicted. The predicted results are shown in table 3.

Table 3. Forecast value of freight volume of Fuzhou in 2019-2025.

| Year | Total social consumption/ Billion yuan | Total social freight volume / Ten thousand tons |
|------|----------------------------------------|-----------------------------------------------|
| 2019 | 5179.77                                | 32142.26                                     |
| 2020 | 5749.54                                | 34910.22                                     |
| 2021 | 6381.99                                | 37982.66                                     |
| 2022 | 7084.01                                | 41393.08                                     |
| 2023 | 7863.25                                | 45178.63                                     |
| 2024 | 8728.21                                | 49380.60                                     |
| 2025 | 9688.31                                | 54044.78                                     |

2.3. Analysis on the development trend of freight volume in Fuzhou

According to the above forecast results, the development of social freight volume in 2019-2025 in Fuzhou is shown in figure 1, and the expected social freight volume in 2019-2025 is shown in table 4.

As the capital city of Fujian province, Fuzhou has shown a good momentum of economic development. Because of Fuzhou freight volume in the whole society and national economy gross and social total retail sales of commodities, has a good linear relationship between gross national economy and the improvement of social total retail sales of commodities inevitably brought large increase of traffic volume, the demand for transportation service and quality requirements will be increasing, leading to an increasing trend of logistics demand. Figure 1 shows the rate of this growth trend increasing year by year.

Table 4. Forecast value of freight volume of Fuzhou in 2019-2025.

| Year | Total social freight volume /ten thousand tons |
|------|-----------------------------------------------|
| 2019 | 32165.00                                     |
| 2020 | 34761.38                                     |
| 2021 | 37619.11                                     |
| 2022 | 40764.76                                     |
| 2023 | 44227.63                                     |
| 2024 | 48040.00                                     |
| 2025 | 52237.52                                     |

Figure 1. Trend of social freight volume in Fuzhou from 2019 to 2025.
3. Safeguard measures for Fuzhou to be built into a national logistics hub city

3.1. Establish a favorable policy environment conducive to the development of logistics industry

Establish the policy concept of "logistics facilities belong to the infrastructure of economic development", and formulate reasonable land development and use policies from the perspective of public welfare of logistics facilities. It has a strong market demand, high social benefits, public service attributes and public welfare urban logistics infrastructure, and explores the establishment of urban coordination guarantee mechanism in planning, land, investment and financing, construction and operation, and benefit sharing, so as to solve the "difficult landing" problem of logistics infrastructure. The land for terminal distribution outlets should be guaranteed, and the land for community public service facilities should be well planned. New industrial, commercial and community projects should be planned, and the land for logistics and distribution terminal outlets should be reserved.

3.2. Increase investment financing support

We will continue to support key areas and weak links in the logistics industry through government investment, and guide nongovernmental capital into the logistics sector. We will encourage private capital to invest in such projects as roads, water transport, ports, civil airports and general aviation facilities by means of sole proprietorship, holding shares or equity participation. Private capital is encouraged to participate in the construction of main railway lines, branch lines and station facilities in Fuzhou. Actively seek financial support from higher authorities, The municipal finance department arranges special funds for the development of the logistics industry every year to focus on cultivating logistics parks, cold chain logistics, e-commerce logistics, joint distribution, smart logistics, and industrial leaders. The people's government of each county (city) area also should arrange certain fund, the modern logistics industry is listed as a key support industry.

3.3. Improve the layout of Fuzhou's comprehensive transportation network

We will promote the policy of facilitating customs clearance in pilot free trade zones to be replicated in airports and seaports, develop multimodal transport in key logistics arteries, and improve logistics and transshipment facilities. We will actively create conditions for the opening of freight trains, liners and all-cargo aircraft, and provide appropriate operating subsidies for freight trains and all-cargo flights between China, Europe and Central Asia. We will encourage enterprises to carry out "the maritime silk road" logistics cooperation projects, and encourage and support the construction and operation of logistics parks, distribution bases, distribution centers and public overseas warehouses in countries and regions along the "the maritime silk road".

4. Conclusion

Based on the theme of Fuzhou national logistics hub city construction, this paper forecasts the logistics demand of Fuzhou city by means of data collection, literature interpretation and modeling analysis, and on the basis of the logistics demand forecast, puts forward relevant policy Suggestions for Fuzhou city to build a national logistics hub city.

Acknowledgement

This paper is supported by the “2018 New Century Excellent Talent Support Program of institution of higher education in Fujian Province”, and the "Thirteenth Five-Year Plan” of Fujian Province education science major undergraduate education reform projects with project number FBJG20170107.

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