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Research on the Regional Development of China's Express Delivery Industry and its Influencing Factors

Song Han, Jia Liu, Haijian Wu
Beijing Wuzi University, Beijing 101149, China

Abstract: This paper analyzed the current situation of the regional development of express industry in China from three aspects: the scale of the express industry, the type of registration and the structure of the unit size, and summarized the characteristics of the regional development of express industry. This paper also research on the factors affecting the development of express industry from three aspects of macro economy, e-commerce development and transportation level, using the data of 2013.
Keywords Express delivery industry; Regional development; Influence factors

INTRODUCTION

Express industry is a fast developing industry. Since 2003, the global express delivery industry has an average annual growth of more than 4%, faster than the average speed of the world economic growth. Express delivery industry has become one of China's fastest growing industries. The national "12th Five-Year Plan" clearly put forward to develop modern logistics industry, accelerate the establishment of social, professional, modern logistics service system, and vigorously develop the third party logistics, strengthen logistics infrastructure, improve logistics efficiency, reduce logistics costs, and improve logistics intelligence and standardization level. The express logistics industry as a sub industry of logistics also must be included in the preferred development fields. Based on the data from the third economic census, 2014 China statistical yearbook and the data released by the State Post Office, the paper studies the current situation of the regional development of the express industry from the regional point of view.

SCALE REGIONAL DISTRIBUTION OF EXPRESS INDUSTRY

Express industry scale can be measured from four aspects: the legal units, business income, total assets and the number of employees to analyze the scale distribution of the express industry in China's 31 provinces and cities. In this study, we use clustering two-steps algorithm to do cluster analysis, using Modeler SPSS 16.0 software to distinguish the 31 provinces and cities in five categories, shown in Table 1.

Table 1. The Clustering Table of Scale of Express Delivery Industry in 31 Provinces and Autonomous Regions

Category	Province	Average unit number	Average business income (billion yuan)	Total number of assets (billion yuan)	Average number of employees
Clustering-1	Guangdong	1229	161	202	96608
Clustering-2	Beijing	530	189	187	64048
Clustering-3	Shanghai, Jiangsu, Zhejiang, Shandong	785	93	94	39656
Clustering-4	Hebei, Liaoning, Jilin, Anhui, Fujian, Jiangxi, Henan, Hubei, Hunan, Sichuan, Yunnan, Shananxi	394	18	16	12559
Clustering-5	Tianjin, Shanxi, Inner Mongolia, Heilongjiang, Guangxi, Hainan, Chongqing, Guizhou, Tibet, Gansu, Qinghai, Ningxia, Xinjiang	135	7.96	7	4727

Corresponding Author: Song Han, Beijing Wuzi University, Beijing 101149, China

On the whole, the feature of express industry in China appeared intensive in the southeast and sparse in northwest. For example, scale of express industry in Tibet, Qinghai, Ningxia, Hainan, Gansu, Guizhou which in the west area were less, but scale of express industry in Beijing Guangdong, Shandong, Jiangsu, Shanghai, Zhejiang were larger.

REGIONAL DISTRIBUTION OF REGISTERED TYPE STRUCTURE OF EXPRESS INDUSTRY CORPORATION

At the end of 2013, there are 11380 enterprises engaged in express delivery activities, including the eastern part of the country accounted for 23.6%, the central region accounted for 19.2%, the western region accounted for 50%, northeast accounted for 7.2%.

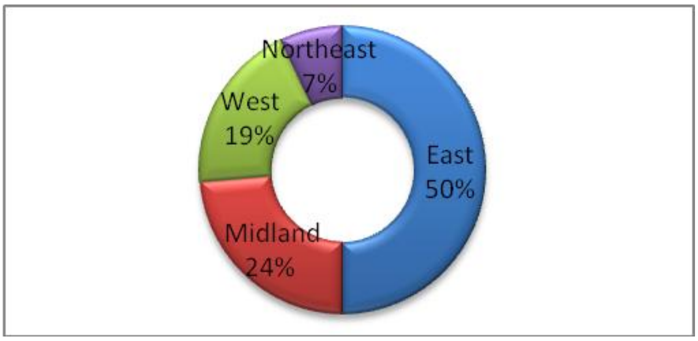

Figure 1. Regional share of the registered type of express enterprise

Among them: the eastern part include Beijing, Tianjin, Hebei, Shanghai, Jiangsu, Zhejiang, Fujian, Shandong, Guangdong, and Hainan. The central regions include Shanxi, Anhui, Jiangxi, Henan, Hubei and Hunan. The western regions include Inner Mongolia, Guangxi, Chongqing, Sichuan, Guizhou, Yunnan, Tibet, Shananxi, Gansu, Qinghai, Ningxia, and Xinjiang. Northeast regions include Liaoning, Jilin and Heilongjiang.

According to the type of registration, China's express enterprise legal entities have three types: domestic investment companies, Hong Kong, Macao and Taiwan investment companies and foreign investment companies. There are 11340 units of domestic investment companies, 17 units of Hong Kong, Macao and Taiwan investment companies, and 23 foreign investment units. The domestic units include state-owned companies, collective owned enterprises, joint stock cooperation companies, associate companies, limited liability companies, limited companies, private enterprises, other enterprises, market share of these types as shown below.

Table 2. Market Share of Express Enterprise Legal Entities

Registration Type	Unit number	Percent
Private Enterprises	7590	66.70%
Limited Liability Companies	2556	22.46%
Others	626	5.50%
Limited Companies	244	2.14%
State-owned Companies	173	1.52%
Joint Stock Cooperation Companies	78	0.69%
Associate Companies	48	0.42%
Collective Owned Enterprises	25	0.22%
Foreign Investment Companies	23	0.20%
Hong Kong, Macao and Taiwan Investment Companies	17	0.15%

From the above analysis, we can know that the proportion of private enterprises in China was the largest, 66.7%, which reflected the rapid development of private express industry in China in recent years. However, the number of enterprises of foreign investment and Hong Kong, Macao and Taiwan investment enterprises are rare, only 0.15%. So the international exchange and investment promotion in the express delivery industry should be strengthened.

Among them, the proportion of private enterprises in Shanghai, Zhejiang, Jiangsu, Qinghai, Shanxi, Shandong, Beijing, Chongqing and Anhui were larger, above 60%, the proportion of private enterprises in Zhejiang reached 93.7%. Hainan, Shaanxi, Gansu, Sichuan, Xinjiang, Guizhou and other places had a large proportion of the limited liability company. The large proportions of state-owned enterprises were in Henan, Inner Mongolia, Shandong and other places. Foreign investment enterprises accounted for a large proportion of the provinces: Beijing, Guangdong, Shandong, Shanghai and others, whose scale of express industry were larger. See Table 3.

Table 3. Market Share of Part of the Provinces of Type of Corporate Registration

Province	private enterprise	Province	limited liability company	Province	state-owned enterprise	Province	Foreign investment enterprise
Zhejiang	93.68%	Hainan	43.75%	Henan	4.73%	Tibet	4.35%
Shanghai	92.90%	Shanxi	39.16%	Inner Mongolia	4.52%	Beijing	0.75%
Jiangsu	83.36%	Gansu	35.29%	Tibet	4.35%	Guangdong	0.73%
Qinghai	73.68%	Sichuan	33.82%	Shandong	3.20%	Shandong	0.46%
Shanxi	73.18%	Guizhou	33.17%	Tianjin	2.72%	Shanghai	0.42%
Shandong	71.19%	Xinjiang	32.96%	HeiLongjiang	2.64%	Anhui	0.22%
Beijing	69.81%	Jilin	32.02%	Hebei	2.59%	Hubei	0.15%
Chongqing	67.91%	Yunnan	31.93%	Guangxi	2.31%	Jiangsu	0.00%
Anhui	66.22%	HeiLongjiang	31.28%	Jiangxi	2.22%	Zhejiang	0.00%
Ningxia	65.43%	Fujian	30.49%	Jilin	1.97%	Fujian	0.00%
Hubei	63.91%	Henan	30.43%	Fujian	1.83%	Hebei	0.00%
Jiangxi	62.97%	Tibet	30.43%	Hunan	1.79%	Henan	0.00%
Liaoning	62.86%	Hebei	29.63%	Anhui	1.78%	Hunan	0.00%
Tianjin	62.59%	Inner Mongolia	28.96%	Shaanxi	1.75%	Jilin	0.00%
Hunan	61.79%	Guangdong	28.56%	shanxi	1.68%	Jiangxi	0.00%

REGIONAL DISTRIBUTION OF THE SCALE STRUCTURE OF THE ENTERPRISE IN THE EXPRESS INDUSTRY

According to the enterprise scale classification, enterprises are divided into four types: large, medium, small and micro. The number of large enterprises was 49, accounting for 0.43%; the number of medium-sized enterprises was 104, accounting for 0.91%; the number of small enterprises was 1807, accounting for 15.88%; the number of micro enterprises was 9420, accounting for 82.78%. It can be seen that the proportion of small and micro enterprises accounted for a large proportion, which is the subject of the express enterprise market.

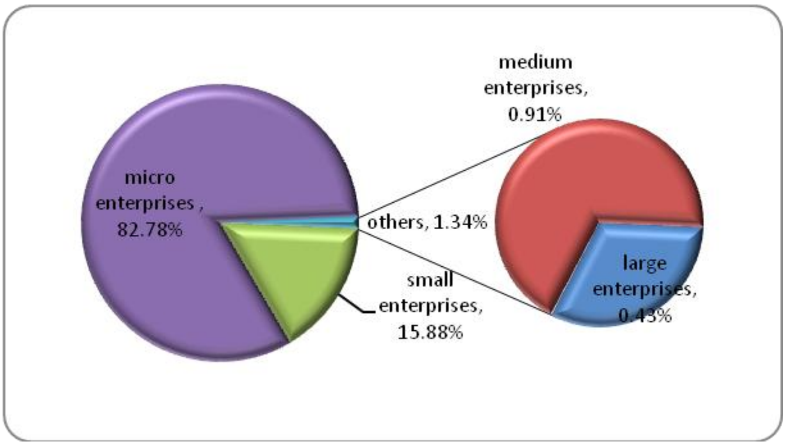

Figure 2. Express enterprise scale market share

Among them, the larger proportion of large enterprises were in Beijing, Tianjin, Jilin, Chongqing and so on; Large proportion of medium-sized enterprises were in Qinghai, Hainan, Tianjin, Jiangsu, Gansu, Guangdong, Liaoning, etc.; Large proportion of small enterprises were in Jiangsu, Shandong, Zhejiang, Chongqing, Fujian, etc. Liaoning, Jilin, Shanxi, Ningxia and other provinces have a large proportion of micro enterprises. See Table 4.

Table 4. Part of The Provinces Express Companies Scale Market Share

Province	Proportion of Large Enterprises	Province	Proportion of Medium-Sized Enterprises	Province	Proportion of Small Enterprises	Province	Proportion of Micro Enterprises
Beijing	1.70%	Qinghai	5.26%	Jiangsu	25.92%	Liaoning	94.29%
Tianjin	1.36%	Hainan	4.17%	Shandong	24.24%	Jilin	91.63%
Jilin	0.99%	Tianjin	2.72%	Zhejiang	23.45%	Shanxi	91.62%
Chongqing	0.75%	Jiangsu	2.40%	Chongqing	20.90%	Ningxia	90.12%
Jiangsu	0.64%	Gansu	1.68%	Fujian	20.12%	Guizhou	89.76%
Shanghai	0.64%	Guangdong	1.38%	Hunan	20.00%	Hubei	88.84%
Fujian	0.61%	Liaoning	1.30%	Anhui	19.11%	Beijing	88.68%
Guangxi	0.58%	Shanghai	1.27%	Hainan	18.75%	Heilongjiang	88.55%
Xinjiang	0.56%	Ningxia	1.23%	Guangdong	18.47%	Inner Mongolia	88.24%
Zhejiang	0.55%	Fujian	1.22%	Shanghai	17.07%	Gansu	86.55%
Guangdong	0.49%	Guizhou	0.98%	Qinghai	15.79%	Guangxi	86.13%
Anhui	0.44%	Beijing	0.94%	Shananxi	14.69%	Jiangxi	85.76%
Hebei	0.37%	Inner Mongolia	0.90%	Henan	14.56%	Tianjin	85.03%
Hunan	0.36%	Sichuan	0.88%	Sichuan	14.12%	Hebei	84.81%
Shananxi	0.35%	Heilongjiang	0.88%	Hebei	14.07%	Sichuan	84.71%

ANALYSISI OF FACTORS AFFECTING ON THE DEVELOPMENT OF REGIONAL EXPRESS DELIVERY INDUSTRY

Express business volume growth and demand formation depend on the economic growth and express delivery service level. The former is an internal factor; the latter is the external factor. Analysis of the macro environment for the development of the express delivery market, the impact of the development of the national express delivery industry factors, such as the level of urbanization, e-commerce, technical means, etc. The basic conditions for the development of express, advanced transportation facilities and equipment is the key factor; in addition, foreign trade also provides a broad market for the express delivery industry.

This research is to study the impact of the express industry from the aspects of macro economy, the development of electronic commerce, transportation, information and so on. The first factor is economic growth. Third industrial added value is one of the macroeconomic indicators which are closely related to the development of the express industry. The impact of industrial development on the development of express industry was made from the perspective of economic growth. The second factor is the development of electronic commerce. One of the sources of rapid growth of express service demand is that a large number of commercial transactions are carrying out through the Internet. The third factor is import and export trade. A large amount of information needs to be communicated in international trade, a large number of documents, commodities and goods need to be transmitted, and thus the development of commercial economy will depend more on the package freight express delivery service instead of the traditional truck or rail transportation mode. Total import and export of goods is a good indicator of the development of foreign trade. The fourth factor is transportation situation. Express is characterized by fast and convenient, whose requirement to the traffic capacity is very high. The development of express industry is closely related to the development of transportation industry. Highway is the most important traffic facilities in China's express delivery business, and the traffic volume of highway is the most important indicator of logistics transportation, which is the index of the factors that reflect the traffic. According to the influencing factors, the data of 31 provinces and municipalities in 2013, except for Hong Kong, Macao and Taiwan, are chosen to analyze the correlation between the income and the factors.

As can be seen from the following table, express business income and third industry added value, e-commerce sales, total import and export volume had strong correlation, belonging to a strong positive correlation. The correlation between the volume of goods and express business income was relatively weak.

Table 5. Correlation Coefficient

		Express Business Income	Third Industry Added Value	E-commerce Sales	Volume of Goods	Total Import and Export Volume
Express Business Income	Pearson Correlation Coefficient	1	.794**	.866**	.570**	.933**
	Sig.		.000	.000	.001	.000
	N	31	31	31	31	31
Third Industry Added Value	Pearson Correlation Coefficient	.794**	1	.913**	.617**	.874**
	Sig.	.000		.000	.000	.000
	N	31	31	31	31	31
E-commerce Sales	Pearson Correlation Coefficient	.866**	.913**	1	.469**	.954**
	Sig.	.000	.000		.008	.000
	N	31	31	31	31	31
Volume of Goods	Pearson Correlation Coefficient	.570**	.617**	.469**	1	.471**
	Sig.	.001	.000	.008		.007
	N	31	31	31	31	31
Total Import and Export Volume	Pearson Correlation Coefficient	.933**	.874**	.954**	.471**	1
	Sig.	.000	.000	.000	.007	
	N	31	31	31	31	31

Select express business income as the dependent variable, the third industry added value, e-commerce sales, total import and export volume and turnover of goods as independent variables. The data of 31 provinces and municipalities were analyzed by SPSS, except for the Hong Kong, Macao and Taiwan in 2013. The standard regression equation was obtained:

Which Y represents the express business income, X_1 on behalf of total imports and exports, X_2 on behalf of the turnover of goods, X_3 on behalf of the third industry added value. Electronic commerce sales were excluded from the model. The correlation coefficient of the model is 0.954, and the adjusted R^2 is 0.9. And through all kinds of hypothesis test, the model can be used. From the standard regression equation can be seen, impact of the total import and export volume on express business income was greater, followed by the turnover of goods and added value of the third industry

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