

# Employment development in Hong Kong and the mainland

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**Abstract:** Hong Kong is one of the most prosperous cities in the world. However, in recent years, the number of college graduates in China is increasing year by year, and the employment situation is grim. There are social reasons, policy reasons and employees' own reasons for the difficulty in employment. Supply and demand, employers' emphasis on education, and workers' career choice all affect the employment situation. Analysis of the factors affecting employment, employment situation forecast for the next three years, comparing with developed cities on the mainland, Hong Kong and the mainland industry transformation and the introduction of talent strategy, analyze the new employment direction of contemporary college students, puts forward Suggestions for fostering talents, hoping to improve college students' employment competitiveness, alleviate the problem of employment.

## 1. Introduction

Talent and urban development, attracting talents, is one of the highlights of more and more cities in recent years. Beijing, Shanghai, wuhan, chengdu, hangzhou, nanjing, xi 'an and shenzhen are actually competing for talent with a variety of attractive policies. Talent is the driving force of urban innovation. They can learn better skills, make better products and master better management methods in a short time. Talents are the main driving force of urban innovation diffusion, which is realized by high-quality talents promoting new technologies and techniques.

## 2. Influencing Factors

### 2.1. Symbol Description

Table 1. symbol description

symbol	explanation
f	The first industry
s	The second industry
t	tertiary industry
o	Other industries
L	Talents with low education background
S	Talents with secondary education
H	Highly educated talents

### 2.2. Influence Factor

Undoubtedly, many factors not only affect the overall employment situation, but also inevitably affect the employment of college students. However, the key influencing factors for college students' employment are still "structural". These factors include short-term oversupply, regional preference and insufficient employability, among which solving the problem of insufficient employability is the fundamental to effectively solve the employment of college students. In terms of time structure, the oversupply of college graduates exceeds the growth of demand in the short term, and the labor market still needs time to adjust gradually. The problem is that the supply of college graduates is growing much faster than the economy, creating an imbalance between supply

and demand. The employment problem is also affected to some extent by the degree requirements of graduates.

### 2.3. The establishment of employment influencing factors chart

Consult the statistical yearbook of Hong Kong bureau of statistics, search the number of job seekers in the job market every month from September 2015 to August 2015, and make a chart to analyze the influencing factors of employment according to a period of four months.

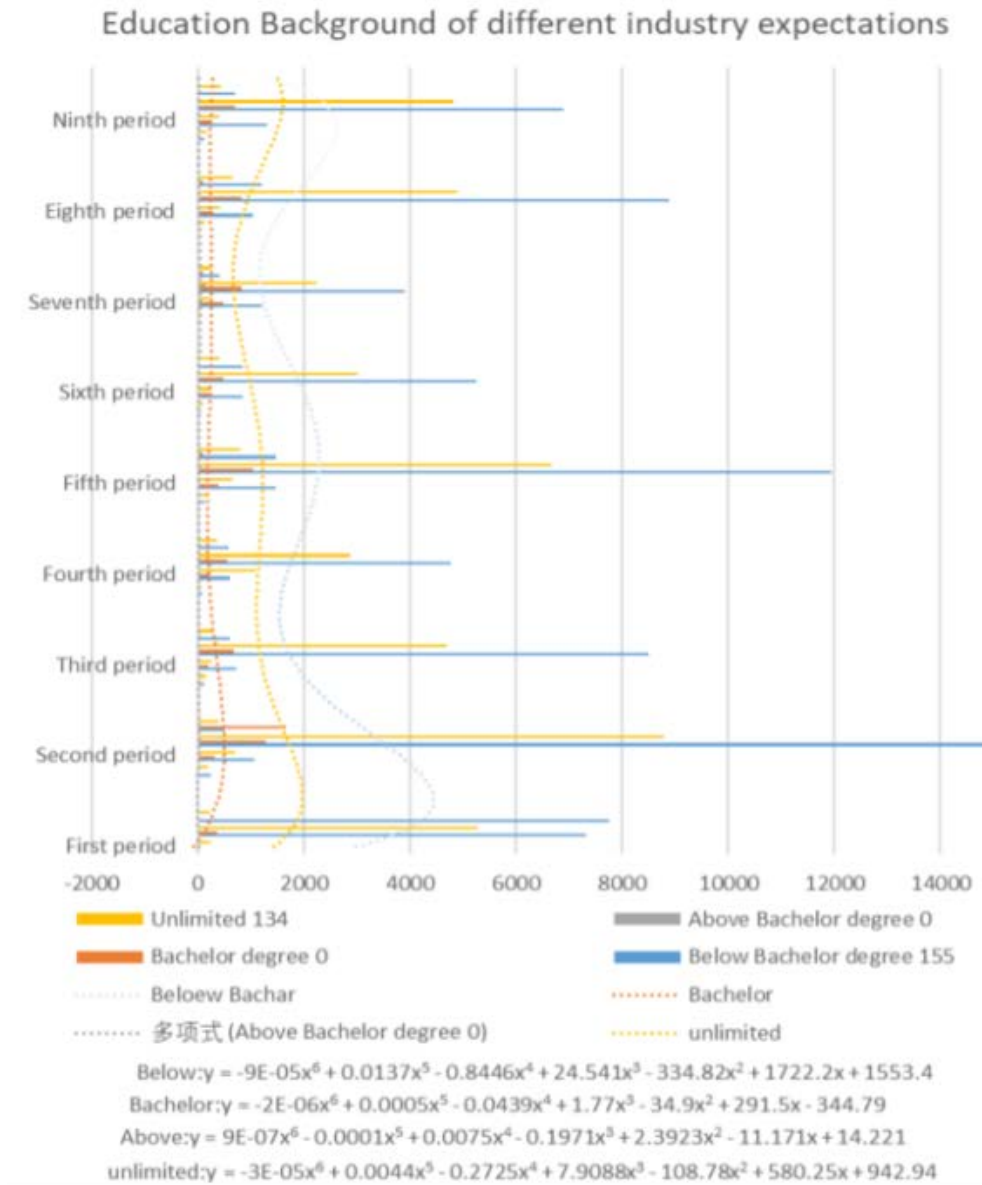


Figure 1. Distribution of educational background in different industries

Table 2. Employment rates in different industries at different times

time	industry	failure	success	total number
first	First	0	0	0
	second	3705	854	4559
	third	76851	12720	89571
	other	631	1185	1816
second	First	0	0	0
	second	12777	2054	14831
	third	166113	25415	191528
	other	2512	956	3458

	First	0	0	0
third	second	3322	2644	5966
	third	79147	14127	93274
	other	5172	954	6125
	First	0	0	0
fourth	second	3616	1884	5500
	third	48076	8328	56404
	other	5117	966	6083
	First	0	0	0
fifth	second	11414	2513	13927
	third	116341	19999	136340
	other	13594	2360	15954
	First	0	0	0
sixth	second	8770	1282	10052
	third	44480	8874	53354
	other	9049	1292	10341
	First	0	0	0
seventh	second	8787	2000	10787
	third	41084	7256	43339
	other	5133	692	5825
	First	0	0	0
eighth	second	10292	1816	12108
	third	83010	14819	97829
	other	12166	2567	14732
	First	0	0	0
ninth	second	9295	1997	11292
	third	73392	12743	86135
	other	9943	1172	11115

## 2.4. Analysis of influencing factors of employment

$$S_t^{(1)} = \alpha y_t + (1 - \alpha) S_{t-1}^{(1)}$$

$$= S_{t-1}^{(1)} + \alpha (y_t - S_{t-1}^{(1)}) \quad (1)$$

$$M_t^{(1)} = M_{t-1}^{(1)} + \frac{y_t - y_{t-N}}{N} \quad (2)$$

$$M_t^{(1)} = M_{t-1}^{(1)} + \frac{y_t - M_{t-1}^{(1)}}{N}$$

$$= \frac{y_t}{N} + \left(1 - \frac{1}{N}\right) M_{t-1}^{(1)} \quad (3)$$

$$\hat{y}_{t+1} = \alpha y_t + (1 - \alpha) \hat{y}_t \quad (4)$$

The results are as follows:

Low degree:  $y = -8E - 05x^6$   
 $+0.0132x^5 - 0.8095x^4 + 23.272x^3$   
 $-310.31x^2 + 1486.2x + 2419.8$

Secondary education:  $y = -7E - 07x^6$   
 $+0.0002x^3 - 0.0248x^4 + 1.1426x^3$   
 $-24.382x^2 + 208.57 - 113.91$

Higher education :  $y = 9E - 07x^6 - 0.0001x^5 + 0.0077x^4 - 0.2036x^3 + 2.498x^2 - 11.955x + 16.176$

No record of formal schooling :  $y = -3E - 05x^6 + 0.0041x^5 - 0.2527x^4 + 7.3213x^3 - 99.889x^2 + 516.27x + 1112.9$

Analysis: low degree talent base of job market proportion is very big, but the job market increasingly lower education talents tend to be more saturated state, leading to low degree of the employment problem will increasingly serious, do not restrict education jobs in a situation in the end, there was no obvious float, secondary education and higher education personnel for the base of the job market is not big, but a steady growth trend, and the highly educated talent market demand growth is greater than medium academic talented person's demand. As can be seen from the second figure, the supply of job market exceeds the demand in recent years, and the number of job seekers far exceeds the number of job openings, which leads to the problem of difficult employment for most people. On the whole, improving education is a feasible way to find a job.

### 3. Model Establishment

#### 3.1. Forecast and analysis of potential employment demand

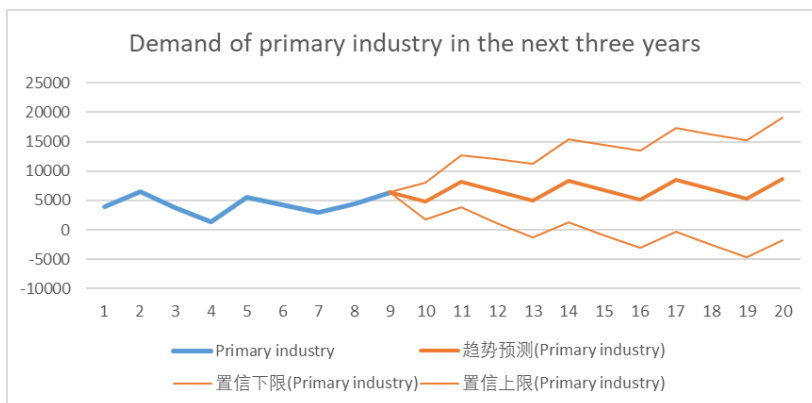


Figure 2. Talent demand forecast for the next 3 years

Table3. Talent demand forecast data for the next three years

calendar	The first industry	The second industry	The third industry
10	4849.965458	9688.6496	79741
11	8203.456063	17838.6496	16540.01139
12	6553.706818	11831.7556	103734.9733
13	5009.672276	11296.44803	31867.09583
14	8363.162881	19446.0501	35548.36
15	6713.413636	13439.55404	82725.35918
16	5169.379094	12904.24646	10857.48172
17	8522.869699	21053.84853	15513.58
18	6873.120455	15047.35247	31498.86
19	5329.085913	14512.04489	4500.37
20	8682.576517	22661.64697	83029.36

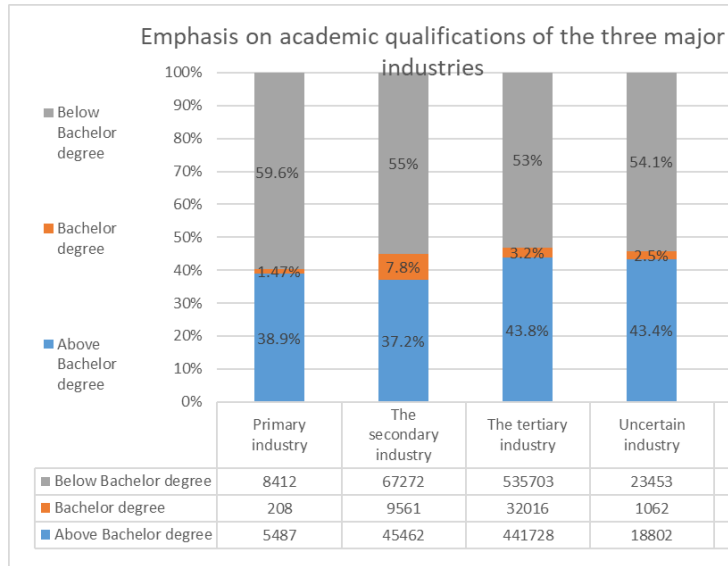


Figure 3. The demand for talents with different education levels in different industries

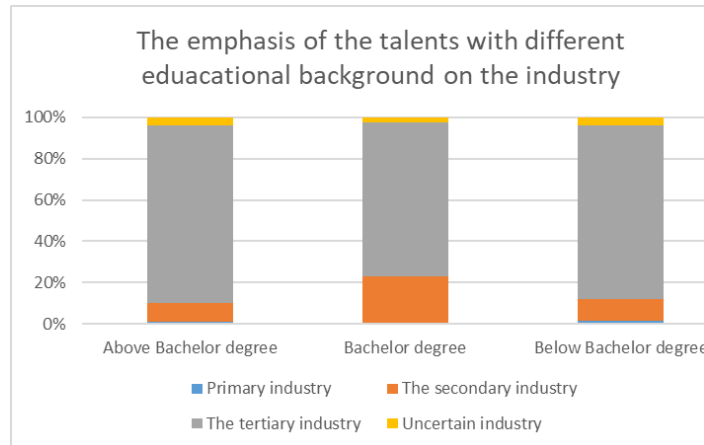


Figure 4. The tendency of talents to different industries

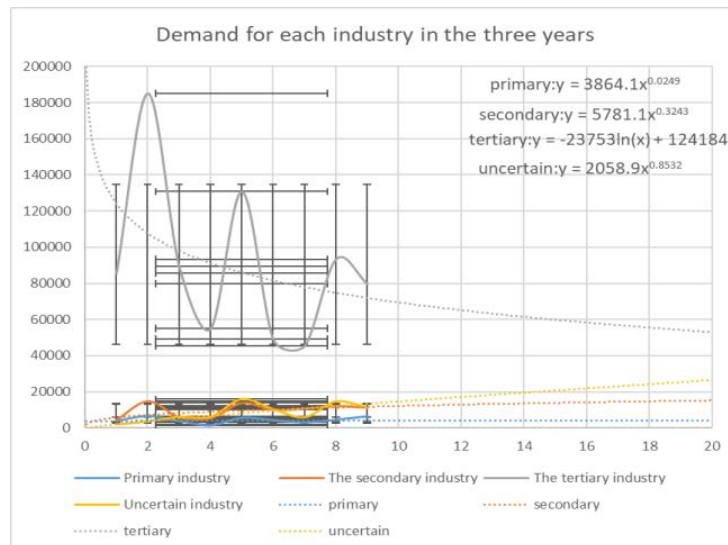


Figure 5. The forecast of talent demand in three industries in the next three years

$$primary: y = 3864.1x^{0.0249}$$

$$(5) \quad secondary: y = 5781.1x^{0.3243}$$

$$(6)$$

$$third: y = -23731\ln x + 124184$$

$$(7) \quad uncertain: y = 2058.9x^{0.8532}$$

$$(8)$$

Analysis: figure 5 reflects the trend of various industries in the next three years. Among them, the annual demand for personnel in the primary industry is basically unchanged, maintaining a

steady development. The number of workers in the secondary industry increased compared with previous years, but it was nearly saturated. The demand for tertiary industry personnel will decrease in the next three years, indicating that the tertiary industry in Hong Kong has a high level of development and its personnel are already saturated. Emerging industries will be greatly improved and there will be a great demand for personnel in the next three years.

Currently, the proportion of higher education talents in the tertiary industry is not obvious compared with other industries. Moreover, the proportion of employment personnel with low education background in the tertiary industry is the largest compared with other industries. There is still room for development of emerging industries and the tertiary industry.

Looking up the employment tendency of Chinese talents in recent years 12, it can be concluded that the job-seekers tend to the employment of the tertiary industry, the proportion of job-seekers inclined to the primary industry is almost 0, the talents with high education degree tend to the tertiary industry in the largest proportion, and the talents with bachelor's degree tend to the secondary industry in the largest proportion.

### 3.2. The difference of industrial development between Hong Kong and mainland big cities

Hong Kong of the third industry development level is higher, the first and second industry proportion is far less than the tertiary industry, high degree of regions in the development of mainland China is located in the east China and guangdong, Hong Kong, macau, shenzhen region and the municipalities directly under the central government and provincial capital cities, search around the statistical yearbook of statistics, analysis of each industry accounted for the proportion of the overall industry, it is concluded that analysis.

The proportion of tertiary industry in Hong Kong

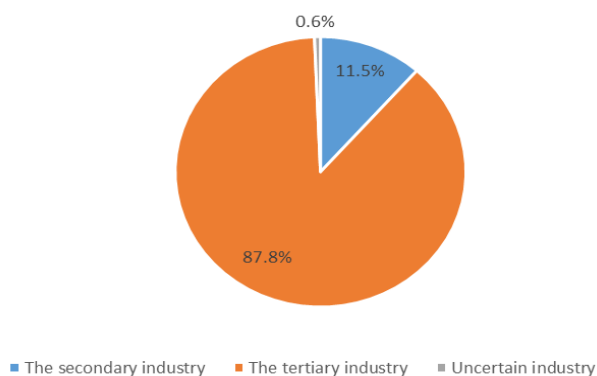


Figure 6. The proportion of various industries in Hong Kong in 2011-2012

The proportion of three major industries in Shenzhen

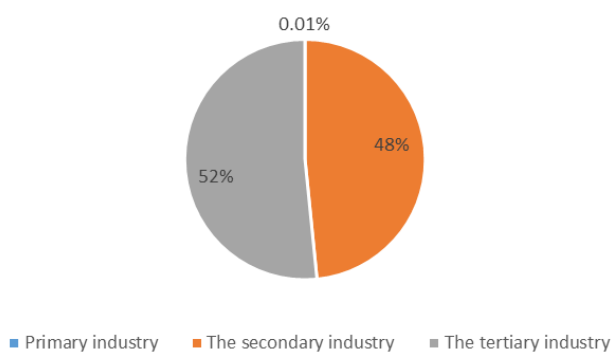


Figure 7. The proportion of various industries in Shenzhen from 2011 to 2012

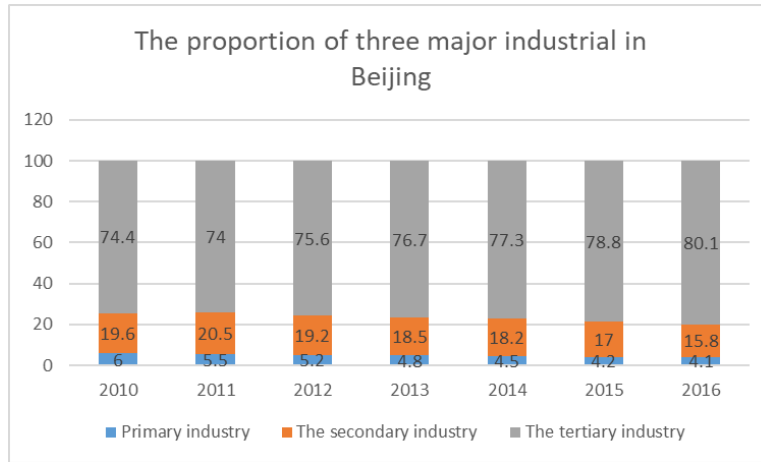


Figure 8. The proportion of various industries in Beijing from 2010 to 2016

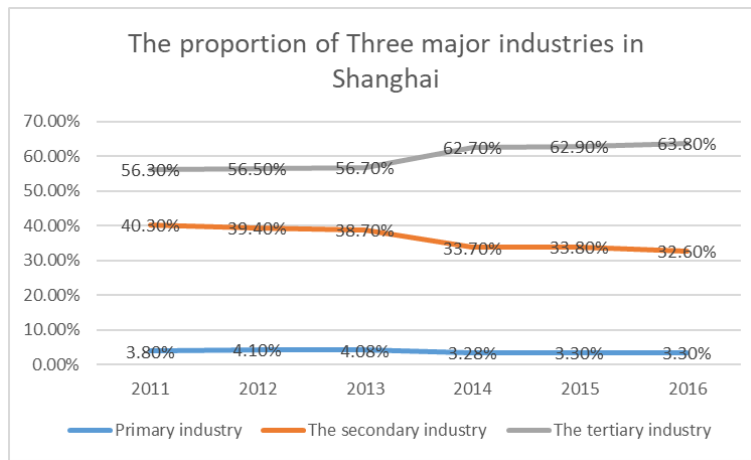


Figure 9. The proportion of various industries in Shanghai from 2011 to 2016

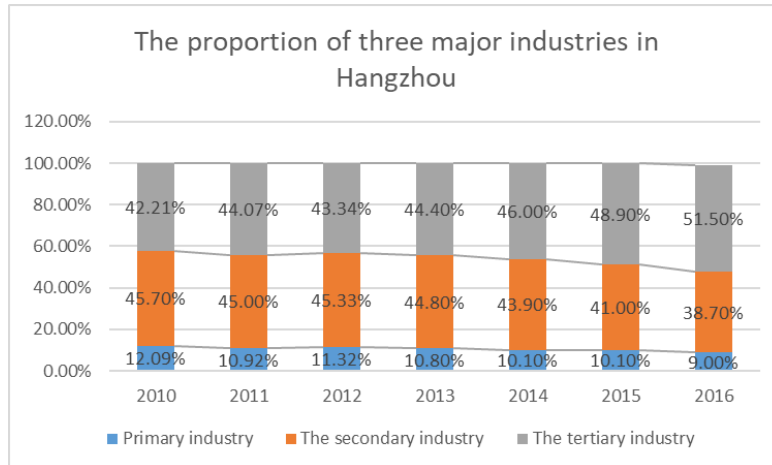


Figure 10. the proportion of various industries in hangzhou from 2010 to 2016

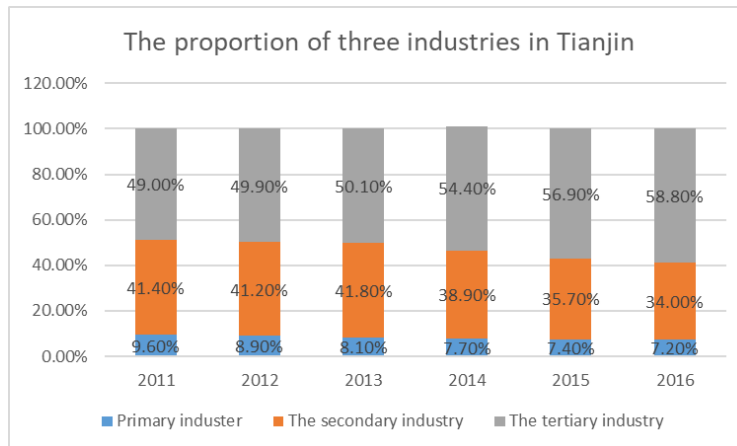


Figure 11. The proportion of various industries in tianjin from 2011 to 2016

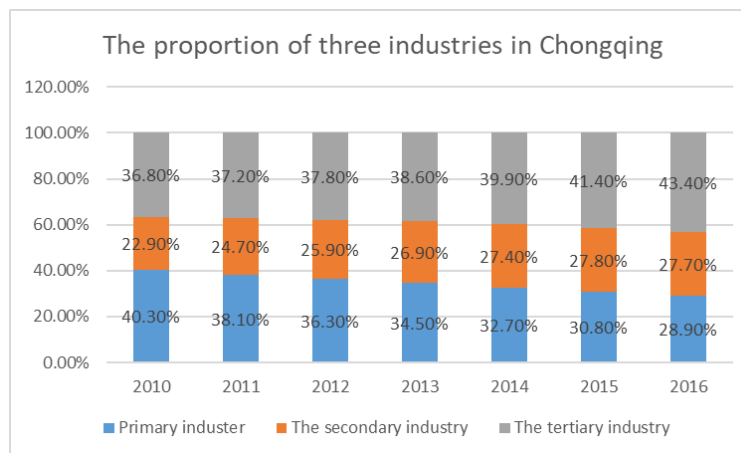


Figure 12. Chongqing 2010-2016 each industry ratio

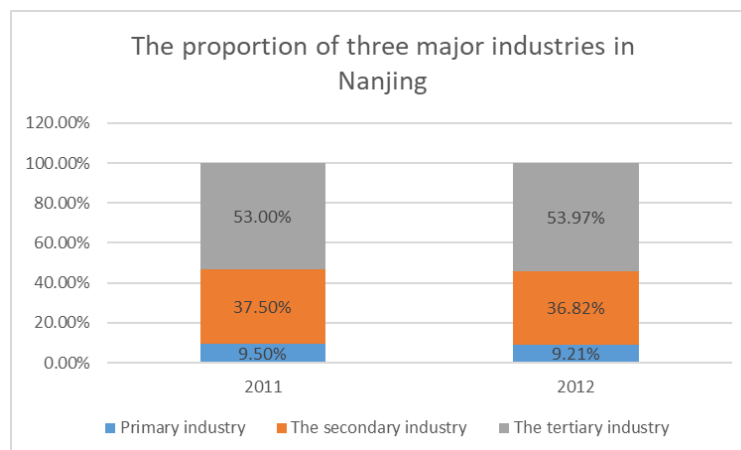


Figure 13. The proportion of various industries in nanjing from 2011 to 2012

Analysis: as a special economic zone in China, shenzhen takes the development of electronic technology products as the main development point, and its secondary industry and tertiary industry have significantly more participants than the primary industry, and the proportion of secondary industry and tertiary industry is roughly equal. In 2013, the proportion of the tertiary industry in Shanghai began to increase, while the proportion of the secondary industry began to decline. The proportion of the primary industry remained unchanged. In recent years, the industrial distribution in hangzhou has not changed much. In general, the primary industry has decreased slightly, about 10%, the secondary industry has decreased greatly, about 40%, and the tertiary industry has increased, about 50%. As the ancient capital of the six dynasties, nanjing has about 10% primary industry, 37% secondary industry and 54% tertiary industry.



As an important city in the north, Tianjin adheres to the equal development of the secondary industry and the tertiary industry. The primary industry is about 7%, the secondary industry is about 35%, and the tertiary industry is about 59%. With the development of time, the proportion of the tertiary industry in Beijing continues to increase, while the secondary industry continues to decline. At present, the tertiary industry is about 80%, the secondary industry is about 15%, and the tertiary industry is about 5%.

Chongqing is located in a land of abundance with fertile soil and suitable environment. Compared with other cities, the primary industry accounts for a large proportion, accounting for about 40%. The secondary industry, such as industrial manufacturing, has a small degree of development, accounting for only 27%.

### 3.3. Analysis on the direction of new employment for college students

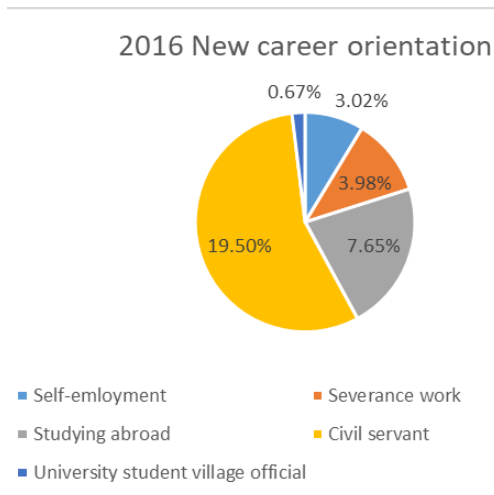


Figure 14. New trend of college students' employment in 2016

Chart analysis: with the trend of "civil servant craze" in recent years. For fresh graduates, being a civil servant can provide them with a stable income and a good life.

From the macroeconomic situation and employment situation of the whole country, this is also an inevitable phenomenon. At present, we are in the stage of recovery and stabilization of economic crisis. This stage is faced with great employment pressure. The employment treatment of civil servants, the guarantee of income during drought and flood and the relatively high social status attract a lot of people to apply.

Self-employment has also become an important tendency for college students to choose a career. With the rapid development of science and technology, owning a new technology means future success. In recent years, a large number of innovative and entrepreneurial talents have emerged, giving college students great confidence.

## 4. Conclusion

Hong Kong urban development and the strategy of talent introduction: as the future many people tend to choose the civil service exam, start a business independently, leave work, go abroad will have a relatively large number of the second industry of the third industry position vacant, the talented person to make up for this vacancy I think should implement some talent introduction, through the foreign talent to fill a brain drain in internal industry jobs. It can be further development from the following three aspects: one is the biological medicine, because Hong Kong has a very good medical institutions, as well as two important medical school; Second, fintech, because Hong Kong is an international financial center. The third category is artificial intelligence IT industry, which focuses on smart cities.

Due to the expanding demand of the job market in the future and the implementation of the talent introduction strategy, the population of Hong Kong will continue to grow. Here, I think there will be

phenomena like housing, traffic, public security and lack of jobs. Traffic should be improved and new transportation routes should be considered.

In the area of public security, we will step up supervision by relevant government departments and assign extra staff to manage public security. At present, there is a relatively large demand for jobs in the secondary industry, followed by the tertiary industry. In the secondary industry, the tertiary industry increases the number of jobs and absorbs foreign talents to balance a series of problems.

In terms of talent introduction strategy, the relevant government departments can adopt the following strategies. For example, if professionals are accepted by local companies in Hong Kong and are engaged in jobs that cannot be easily filled by local people in the city, the remuneration and welfare treatment in the Hong Kong talent market should be roughly the same as that in other parts of China.

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