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Economics with a Focus on China**

**Employment Situation of Technical and Vocational  
Education Graduates in the Chinese Automobile Industry**

**Libo Liu**

[libo.liu.359@student.lu.se](mailto:libo.liu.359@student.lu.se)

**Xuefeng Zheng**

[xuefeng.zheng.117@student.lu.se](mailto:xuefeng.zheng.117@student.lu.se)

*Abstract:* Chinese technical and vocational education (VET) has been developed rapidly after the economic reform since 1978. The graduates from VET schools have become the important labour force in the Chinese labour market. There is a debate on the employment situation of the VET graduates. Throughout the previous research, most of them focused on the employment rate and returns to education. This study aims to illustrate the comprehensive employment situation of the current VET graduates from the perspectives of employment rate and employment quality —— career development prospects, employment satisfaction, employment stability and job suited rate. Based on a self-formulated questionnaire towards the Chinese automobile industry, the employment situation will be discussed among several dimensions such as gender, hukou system, companies of different property rights, working experience, studying years in VET schools.

*Key words:* VET, technical and vocational education, employment situation, automobile industry, labour market, China

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# 1 Introduction

## 1.1 Research Problem

Chinese technical and vocational education (VET) has been developed rapidly since a radical reform took place in 1978. In the recent ten years, there were 72.65 million skilled technicians graduated from technical and vocational schools who have become the main labour force in the Chinese labour market (Xinhua News, 2012). There are a few arguments towards the employment situation of VET graduates in the labour market. One opinion is that currently technical and vocational education has become one of the main content of the Chinese education system which keeps balancing with general academic education. Nowadays, the technical and vocational education is quite successful and can help the graduates improve their employment situation in labour market. Ge Daokai (2016) is the minister who manages technical and vocational education in Chinese education department. He claimed that current Chinese technical and vocational education can meet the demand for labour force in different industries and the employment condition for the graduates of technical and vocational schools is getting better (Ge, 2016). In 2012, the employment rate of technical and vocational schools is 96.85 per cent (China Youth Daily, 2013) which is higher than undergraduates with 91.50 per cent (Report of Chinese undergraduates' employment situation, 2012). It seems that the technical and vocational education has developed towards a thriving trend.

However, another standpoint is that the role of graduates with technical and vocational education background is not as good as the undergraduates in the labour market. The VET graduates stay at a relatively low social status in the labour market (Graduates Employment Blue Book, 2015). Compared to undergraduates, the technical and vocational school graduates not only have the lower initial salary, but also have less promotion and self-developed space. In the Graduates Employment Blue Book released by MyCos Institution, the average initial monthly salary of VET graduates is 500 RMB lower than the undergraduates in the beginning of employment. After three years, the salary gap becomes bigger (almost 1,400 RMB), with the comparison between VET graduates and undergraduates (Graduates Employment Blue Book, 2015). The employment situation of technical and vocational school graduates is not optimistic

actually. Therefore, they are quite different opinions towards the employment situation of technical and vocational school graduates in the Chinese labour market.

## 1.2 Research Aim, Contribution and Limitation

In this paper, the authors aim to explore the current employment situation of graduates from technical and vocational schools based on their own data collection in the automobile industry. By researching employment situation, most of the previous scholars have focused on the employment rate and returns to education. Few of them paid attention to employment quality of career development prospects, employment stability, job suited rate and employment satisfaction. And they always focus on the empirical study, while few of them did a comprehensive study of both employment rate and employment quality based on the same sample. In this paper, the authors tend to illustrate the comprehensive employment situation of current VET graduates in China's labour market from both the employment rate perspective and employment quality perspective based on the self-completion questionnaire. There are some limitations in the paper. Most of the respondents are young people below 30 years old. Only few of respondents are elder people. The age bias would probably cause the problems when comparing young generation with the elder one. In addition, the questionnaire only covers three regions in China which is too narrow to present the whole country. What's more, the names and organizational forms of VET schools are disordered in different countries which may cause the problem on translation and meaning different in comparison.

## 1.3 Outline of the thesis

The paper will, first, introduce the labour market reform in China as the background, then the model framework of VET in Germany and France will be illustrated to gain a better understanding of the results on Chinese VET model. Chinese VET reforms will be introduced followed in this chapter. Chapter three will give a theoretical review in human capital and the previous researches on this topic. Chapter four is the methodology part which describes the details related to the questionnaire formulation and the general results of the questionnaire. In chapter five the employment situation will be analysed with the perspectives of wages, promotion, employment rate, job satisfaction, employment stability and job suited rate. And the

features and problems of Chinese VET system will be described compared with German and French model. The results will be concluded in the end. Then the suggestions and policy implication will be given as well.

## 2 Background

### 2.1 Labour Market Reforms in China

The macro environment of the labour market could play an important role in the employment situation of employees. In order to clearly explore the employment situation of VET graduates, the labour market reforms will then be presented. During the reform period, China's labour market started from zero, and gradually transformed into an increasingly market-driven system (Meng, 2012). Before the reform, there was not any labour market in the command economy and the most remarkable characteristic of China's labour market was the segregation of rural and urban areas (Ge & Yang, 2011; Meng, 2012; Naughton, 2007). China's labour market was entirely isolated between rural and urban areas for several decades because of strict restrictions on immigration (Ge & Yang, 2011; Hoi Yee, 2006; Meng, 2012; Naughton, 2007). From 1949 to 1978, Chinese government forbade labour mobility between the rural and urban areas (Ge & Yang, 2011; Meng, 2012; Naughton, 2007). The government enforced to keep the rural population on farms and ensure food provision for the heavy industrial sector construction in cities because the agricultural productivity at that time was too low (Perkins & Yusuf, 1984). The labour mobility was constrained by implementing a household registration system called "hukou", which is a special household registration management system and could classify the two groups of people either from rural or from urban areas (Meng, 2012).

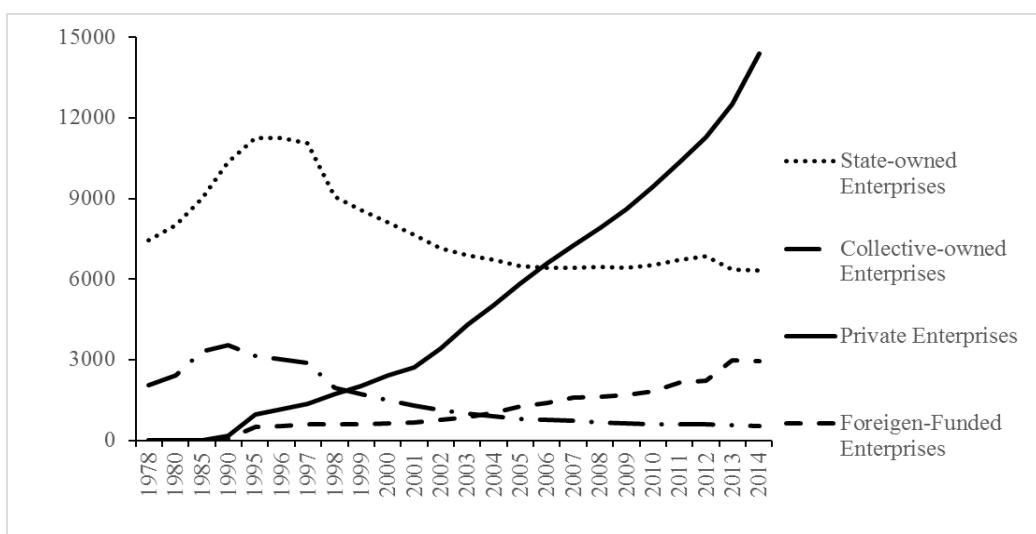
In rural areas, the majority of population were working in agricultural sectors before the reform, and industrial sectors were just subsidiary to agriculture (Ge & Yang, 2011), which only about 7 per cent of the nationwide rural labour force was in non-agricultural employment (Yang, 2004). During this period, China's agriculture was exerted under the production team system and workers' payment was distributed according to the work points they gained during the year (Lin, 1988). Reforms in the rural labour market started with the implementation of the Household Responsibility System since 1978 (Ge & Yang, 2011; Meng, 2012). This system dramatically improved farmers' incentives and increased agricultural productivity, which

released farmers out of farms and gave opportunities to relocate rural labour force to non farm uses (Meng, 2012). Rural surplus labour force and rural underemployment became serious problems in mid-1980s, and the government encouraged to set up rural township and village enterprises (TVEs) for absorbing the surplus rural labour, which both drove rural economic growth and employment in the beginning (Meng, 2012). However, this effect had soon reached its peak. At the same time, the demand for cheap unskilled labour in the Industrial Clusters and Special Economic Zones of the coastal cities and in service or private sectors was increasing rapidly. While during 1980s to the early 1990s there was still limited migration from rural to urban areas (Hoi Yee, 2006; Meng, 2012). Nevertheless, the government continued to push rural migrants back to the countryside during this period (Meng 2012). Since the remarkable economic growth substantially accelerated the demand for unskilled labour in the cities in the late 1990s, especially after China's entry into the World Trade Organization (WTO) in November, 2001, which drove the quick development of China's labour-intensive sectors (Meng, 2012). The government began to relax the restrictions on rural-urban migration (Meng, 2012). Between 1990 and 1997, rural migrants working in cities increased slightly from 25 million to 37 million, but by 2009 the number of rural migrants to China's cities almost quadrupled to reach 145 million. Currently, there are 3 main choices for the rural labour force—continue to farm, leave the farm and undertake local non-agricultural labour or migrate away from the locality (Meng, 2012).

In the urban areas, labour market reforms implemented later than rural reforms and organized at a slower pace (Meng, 2012). Before the reform, all jobs are assigned to urban citizens through educational institutions or local communal offices (Jiedao Banshichu) with an employment quota of the State Ministry of Labour and Personnel (Meng, 2000). Most of the urban population were working for state-owned firms, collective firms or government departments with just 0.02 per cent of urban labour force being self-employed in 1978 and firms were not allowed to fire employees, simultaneously, employees were not allowed to quit freely (Meng, 2012; Meng, 2000). It means that once an individual is assigned to a job. It would be life-long. During this period, full employment was an important goal for the government that could demonstrate the superiority compared socialism ideology with capitalism ideology and to some extent. Almost everyone at the working age could get a job. This pre-reform urban labour arrangement actually reduced mobility and incentives and led to low productivity (Meng 2000).

Urban labour market reforms started in the early 1980s, when a majority of the “sent-down youth” (the youth sent to rural areas during the ten years of the Culture Revolution) returned to the cities, but there were not enough jobs to accommodate these unemployed youths and the government faced the risk with high unemployment rate (Hoi Yee, 2006; Meng 2012). The government issued a policy called “Three Elements Employment” (San jie he) to encourage the returned youths finding jobs independently or through employment agents and finding jobs in private sectors (Wang & X.M, 1992 cited in Hoi Yee, 2006). The state-owned sectors restructuring started in mid-1980s had significant influence on the urban labour market. Firstly, the five-year contract employment system adopted in 1986 broke the life-long tenure (Hoi Yee, 2006; Meng, 2000). However, young contract workers are much riskier to be laid off than old-style workers and almost all skilled workers with technical school and college education could keep permanent contact (Hu & Li, 1993; Meng, 2000). It was not until the issue of the Labour Law of the People's Republic of China in July 1994 that for the first time protected the legislation of the labour contract system and replaced the allocative permanent employment system (Hoi Yee, 2006). With deepening the state-owned sectors restructuring during 1990s and the development of private sectors, the structure of the urban labour market changed dramatically.

*Figure 1. The number of employed people at year-end by registration status nationwide from 1978 to 2014. (Unit: 10000 persons)*

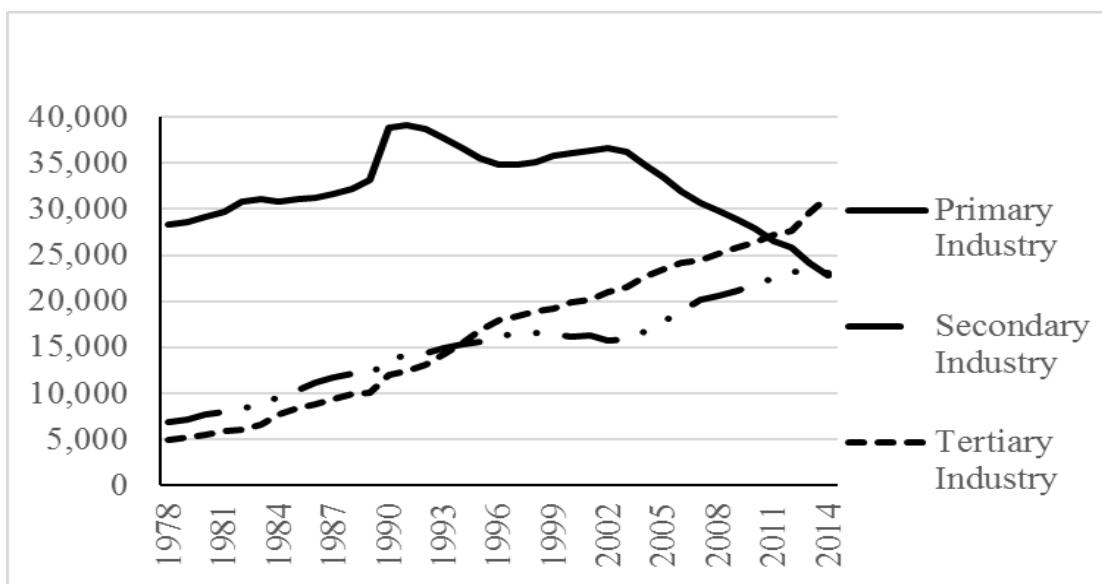


Source: *China Statistical Yearbook, 2015*.

All the major publicly owned enterprises shrank significantly after the late 1990s (Naughton, 2007). Figure 1 shows as late as early 1990s, almost all the employees worked for state-owned and collective-owned enterprises. In the mid to late 1990s, workers in state employment started to decrease, falling from around 110 million to 70 million in 2002 and falling further to 63 million in 2014, which decreased almost by half. The share of workers in state employment has fallen from 93 per cent in 1995 to 82 per cent in 2001, and falling further to 50 per cent by 2008/2009 (Meng, 2012).

The industrial structure transformation also affected both rural and urban labour markets. In the early period of the reform, agricultural sectors absorbed the majority of the labour force because of the low productivity. According to the “Open door” policy and industrialization, industrial sectors and service sectors have developed rapidly and sustainably, which reshaped the labour market both in rural and urban areas. Figure 2 shows the tendency of employment among three major sectors from 1978 to 2014. At the beginning of 1990s, employees in primary industry started to drop from nearly 400 million to less than 230 million in 2014 around 42.50 per cent decrease. The employment in secondary and tertiary industries was far less than primary industry just around 70 million and 50 million in 1970s which could be seen the great gap at the beginning of the economic reforms and then kept growing during the reform period. Both the two sectors caught up and surpassed primary industry after 2011-2012. In 2014, the proportion of employment in primary industry has decreased from 70.50 per cent to 29.5 per cent in 2014, whereas employment in tertiary industry has increased from 9.10 per cent to 40.60 per cent, more than fourfold than the proportion in 1978.

Figure 2. The number of employed people at year-end by industrial sectors nationwide from 1978 to 2014. (Unit: 10000 persons)



Source: China Statistical Yearbook, 2015.

During several decades of reforms, China has created a flexible, diversified employment system currently (Naughton, 2007). Through the reform, it can be seen that rural and urban areas had huge distinctions during the whole reform period and have their own characters. Therefore, these two areas should be analysed separately when the employment situation of VET graduates is discussed. In China, there is a special household registration management system called *Hukou*, which could classify the two groups of people either from rural or from urban areas. Therefore, hukou system will be focused on in the later sections. Furthermore, after 1990s, companies with different ownership widely developed and spread, they could not only compete in seeking profits, but also by absorbing employees with higher quality. Therefore, the property right should also be emphasized in the later part of this paper.

## 2.2 International VET Models

### 2.2.1 German Model

Germany is a typical dual model in technical and vocational education, which is a kind of cooperation between private enterprises and public vocational schools to provide enough skilled employees for the labour market (Dettmann, & Günther, 2009). In general, the majority of German students start their technical and vocational training after the 10<sup>th</sup> grade (Lee, 1994). And Germany offers three pathways of technical and vocational training after secondary school, one of which is the dual system with a combination of on-site training in companies and courses in schools; the second one is the school based system in tertiary occupational areas such as healthcare and social services; the third one is the preparation courses for students who could not enter into a technical or vocational school (Schmidt, 2010). The dual system played a dominant role in the technical and vocational education development in Germany. The dual system is a 2 to 3.5- year firm-based training combined part-time education in technical and vocational schools with on-the-job training (Lee, 1994). Most of the trainees or apprentices spend 3 to 4 days a week in a firm and 1 to 2 days at school. And there are no specific access requirements for the dual system. The training company and the trainee decide whether he or she is suitable for the traineeship and then sign a contract between the two parties, which would cover the total training period and could be cancelled by both parties without having to give any specific reason during the whole period (Theuerkauf, & Weiner, 1993). The syllabus at schools will cover both the general subjects as politics, physical education and the key subjects such as production and test engineering, materials science, mechanical engineering, etc. (Theuerkauf, & Weiner, 1993). The school training course in the dual system is fixed and standardized in the Vocational Training Act (Berufsbildungsgesetz) or the German Crafts and Trades Regulation Code (Handwerksordnung) (Dettmann, & Günther, 2009).

The key feature of the dual system is the coordination between firm and school for educating the trainees or apprentices. In Germany, one outstanding advantage for this system is binding vocational training laws and the training regulations for both firms and schools to clarify the responsibilities in the curricula and examinations (Lee, 1994). There are also advantages for both firms and apprentices from the dual system. Firms could hire their apprentices with high standard theoretical education without paying for additional efforts and costs and they could

also learn more about the potentials of their future employees (Dettmann, & Günther, 2009). For the apprentices, they could not only learn the theoretical knowledge for the future profession, but also have the opportunity to experience practical work in firms (Dettmann, & Günther, 2009). The dual system of Germany VET education has become the most famous and important VET system in the world, especially for the industrial society (Zheng, 2013). China was known as a big manufacturing country through the reform period. German VET system had a significant effort on the founding and development of the VET system in China. Therefore, compared with these two models could bring deeper and further understanding for VET development in China.

The VET system in Germany has often been heralded for the capacities to integrate a large number of young people into dual training and then into the labour market, of which led to the comparatively lower youth unemployment (Culpepper, 1999). Zheng (2013) pointed out that individuals who have not obtained VET qualifications, will face obvious disadvantages in the labour market and the unemployment rate for this group of people is higher, or even if they are hired, the jobs are also very simple ones. Zhang and Li (2005) claimed that there were only 3 per cent employees in German chemical companies without VET studying experiences, compared with 19 per cent in France and 42 per cent in Britain. And Fuhr (1996) showed that more than two-thirds of the general school graduates have the experiences in the dual VET system. It could indicate that technical and vocational education in Germany has a significant positive role in youth employment, which is the safe and attractive choice for the youths. Whether VET education in China which is taken an example by Germany model could play a positive role in helping Chinese youths to find a job? How is the employment situation for these graduates in China? This is what this paper tends to discuss.

### 2.2.2 French Model

The French system of technical and vocational education has a very long developing history. Since the reform in 1964, France gradually created secondary technical and vocational schools which made the foundation for the current comprehensive technical and vocational education system. On the one hand, it covers each different level of students. The secondary education is

for all pupils aged approximately 11--15/16 and in the end of the period they have an opportunity to get the Certificat d'Aptitude Professionnelle (CAP) (Lee, 1994). France also provides professional higher technical and vocational education for students to take a chance to get higher technical certificates BEP (Brevet d'Etudes Professionnelles) and become more competitive in the labour market. This level is quite similar with the bachelor degree in general academic universities. Moreover, beyond the level, there are some kinds of schools offered for super talented students and give them particularly education and training to lead them level upper than university students and finally enter into the top level of the labour market (Valerie, 1985). On the other hand, technical and vocational education covers all kinds of classification of industries, involving in particular trade, industrial, commercial, administrative or social sectors. Especially for the Certificat d'Aptitude Professionnelle (CAP), each particular skill is in different categories. (Valerie, 1985).

French technical and vocational education used to be strongly school-based, academic model, but after 1980s it has been reformed towards practical-oriented model (Cedefop 2000; Troger, 2004). During the reform, it emphasized the work-based elements. Therefore, the reform maintained French traditional fundamental principles, which refers to strong theoretical basis, and also measured to design VET system more practical-oriented. It developed a concept competence which indicates multi-dimensional and relies on the integration of theoretical knowledge and practical learning as well as the personal social qualities in the occupational fields. The main development of French technical and vocational education system has been shifted towards the experimental learning and the emphasis of the workplace as a site of learning. The reform aimed to enhance the practical competence of workers and improve their individual capacity and flexibility in a changing working environment (Brockmann, Clarke, Méhaut, & Winch, 2008).

In France, teachers in vocational schools are not only full-time teachers. Some of the teachers are employed in enterprises and take the part-time job at schools. These kind of teachers are full of practical experiences and good for training students in a practical-oriented way. They can better solve the problems which may meet in the future career (Wang, 2015). The traditional full-time teachers give the lectures of theoretical knowledge as usual. So that the combination

of full-time and part-time teachers can make a better learning atmosphere for technical and vocational school students.

French government and enterprises are the alliance on their technical and vocational education (Troger, 2004). In other words, the educational expense of technical and vocational education in France is assumed by both government and enterprises. The government support is the main financial source for French technical and vocational education. The central government is the leader and takes the charge for the salary of technical teachers which ranks top in technical education expenditure. The local government ranks the second for financial support. Besides of them, enterprises are also the main investors because there is a rule for enterprises to pay the regular tax for technical and vocational education. Meanwhile, the government also gives incentives to enterprises to make investment, leads them to participate in technical and vocational education and takes more social responsibility (Zhang, 2015). The graduates of technical and vocational schools would be mostly employed by enterprises and make contribution to enterprises, hence enterprises are beneficial from the system.

The French VET graduates have the prospective career development in the long term. According to the data on World Salaries Website (2001), the average annual employment income in France is around 20,743 euros, which means around 1,700 euros per month. The salary of technicians is exactly around the average income (World Salaries Website, 2001). For the salaries of engineers, all sources in France report similar average income for engineers from a lower nearly 33,000 euros to an extremely high 108,000 euros (Alberta Government, 2012). Engineers' average income increases with age. The average income of those who less than 30 years old is 36,800 euros in 2010, and those aged 30–34 earn 46,200 euros and those aged 35–39 earn higher as 54,800 euros (Alberta Government, 2012). From this, we could know that the students who just graduated from technical and vocational education in France may not earn so much, their salaries are similar with the average employment income. Nevertheless, their promotion space is quite large, cause with the age growth and increasing working experiences, the salary would rise soon. In the analysis and discussion part, it will explore if Chinese technical and vocational school graduates have the similar promotion space like the French situation.

## 2.3 VET Reforms in China

The 1978 reform is a remarkable event for Chinese technical and vocational education. The Chinese government realized education is the base of economic development. Therefore, Deng Xiaoping claimed to develop each level of schools particularly technical and vocational schools in the national conference on education in 1980. The reforms can be divided into two phases. In the phase of 1980 to the end of 20<sup>th</sup> century, it aims to increase the scale of the technical and vocational schools. In the next phase after 2000, it aims to improve the technical education quality to meet the demand for technical labour force (Shen, 2008).

*The Report on Secondary Education Structure Reform* approved by State Council in 1980 came up with the view to transfer part of general middle schools to vocational schools (Ji, 1995) to scale up VET schools. And the government introduced vocational subjects and technical education into the curricula of some ordinary general academic schools (Pepper, 1990). Meanwhile the general theoretical courses were maintained in the curricula. In addition, the government clarified the rural VET schools managed by local district education department and the urban VET schools charged by city education department (Ji, 1995). The central authorities published another important document, *1985 Decision of the Central Committee of the Communist Party of China on the Reform of the Education System* (Yan, 2013), which preceded the promulgation of the compulsory education law, emphasised China needs to increase the number of enrol students in technical and vocational schools. The technical and vocational education is important, especially the secondary level, which should be continued to hold and gave the first priority for technical and vocational school graduates in employment (Pepper, 1990). The document also indicated that China needs not only the senior science and technology experts but also large numbers of junior technicians and workers who had received good technical and vocational training to build up its competitiveness in national level. Besides, the decision made a regulation to clarify which department take the charge for educational financial expenditure.

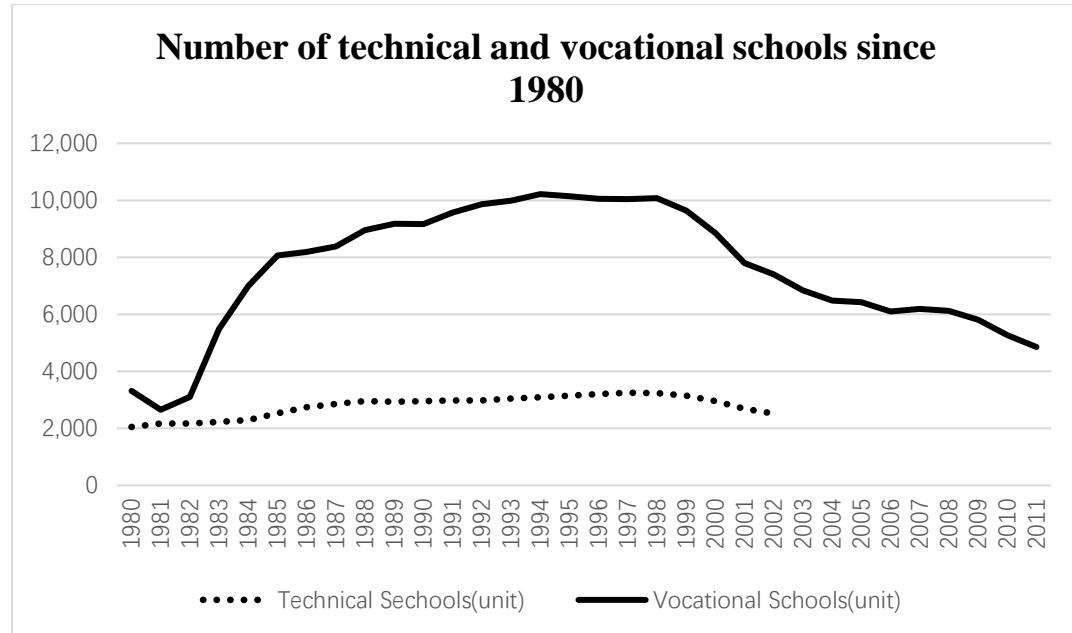
In 1993, a regulation called *Chinese Educational Reform and Developing Outline* which changed the graduates' employment distribution system. Graduates' employment method started to transfer ultimately from traditional government-planning assignment to modern job seeking mechanism of *two-way choice and independent option*. And all the VET graduates have to obey the rules. Moreover, the regulation allowed VET schools admit students with rural Hukou, and after they employed in enterprises they can change their Hukou to urban which improve the VET attractiveness among rural students. In 1995, the government published a document *Opinions on General Secondary Technical and Vocational Education Reform* which claimed the VET schools should train students based on market demand and employment should reach an agreement for both employers and employees (Shen, 2008). In 1998, there is a document *On the Implementation of 'Vocational Education Law' to Speed up the Development of Vocational Education of Several Opinions* (Labour and Social Security Department, State Economic and Trade Commission, State Education Commission, 1998) issued that until 2000 no less than 2 paradigm technical and vocational schools should be set up in each different industries in each first-tier city. This document becomes the turning point of technical and vocational education from the quantity growth to quality growth.

After the 21<sup>st</sup> century, China entered into a new development phase of technical education reform. It started to emphasize the education quality and train the VET students according to the market demand for technical talents. Before 2000, many schools did not make any effort on setting programmes and curricula. Due to the employment method changed to self-job seeking, schools have to consider the problem of the market effect. In order to implement the strategy of sustainable development and rejuvenating China through technology, Education Council published a document *Principles of Deepening the Vocational Education Teaching Reform Facing the 21st Century* (Educational Department, 1998) which claimed that the programmes setting and curricula design should base on the demand of economy development. The programmes and curricula design should make the integration of theoretical knowledge and practical training, combine education and production, as well as strengthen cooperation between VET schools and enterprises. In addition, there should be some related economic experts participate in school board directors. In 2000 Education Department promulgated *Suggestions about Comprehensive Quality-oriented Education, Deepening the Reform of Secondary Vocational Education Teaching* (Shen, 2008). It clarified the training aims of VET

schools that cultivate students' high skills in production, service, technology and management positions. And the learning period ranges from 3 to 4 years, mostly 3 years. In 2002 Labour and Social Security Department came up with a notification about the appraisal on vocational schools and technical skills (Shen, 2008) which informed to integrate these institutions including VET education and professional certificate institution, employment admittance system, operational mechanism of organic links with labour market needs. It aims to balance the academic certificate and professional certificate, comprehensively improve VET graduates' quality and capacity. The reform implemented by the government has achieved the transformation from quantity to quality on VET education. It dramatically improved the quantity of VET schools, enrol students and teachers.

These figures below demonstrate the development trend of VET schools, the enrol students and teachers. All the sources are from China Statistics which indicate the national level data. The data of technical schools are offered until 2002 on the website of China Statistics.

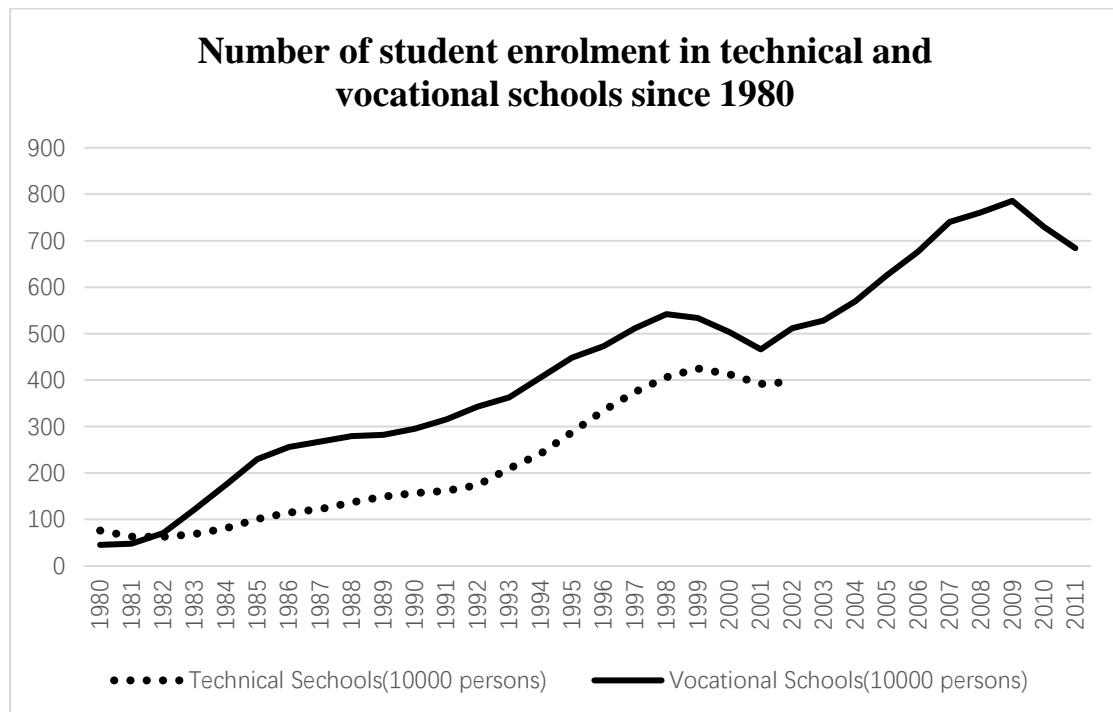
*Figure 3. Number of technical and vocational schools since 1980.*



*Source: China Statistics, national data, education and Culture.*

According to the data from Chinese national statistics, the number of technical schools was gradually increased since 1980 to 1999. In 1998 the technical schools reached the maximum at 3,234 units. Then it slightly decreased but stayed in 2,523 units in 2002. The vocational schools were much more than technical schools. There was a rapid growth during 1982 to 1998 and then it became a decreasing tendency. In 1994 the vocational schools reached the top as 10,217 units of schools.

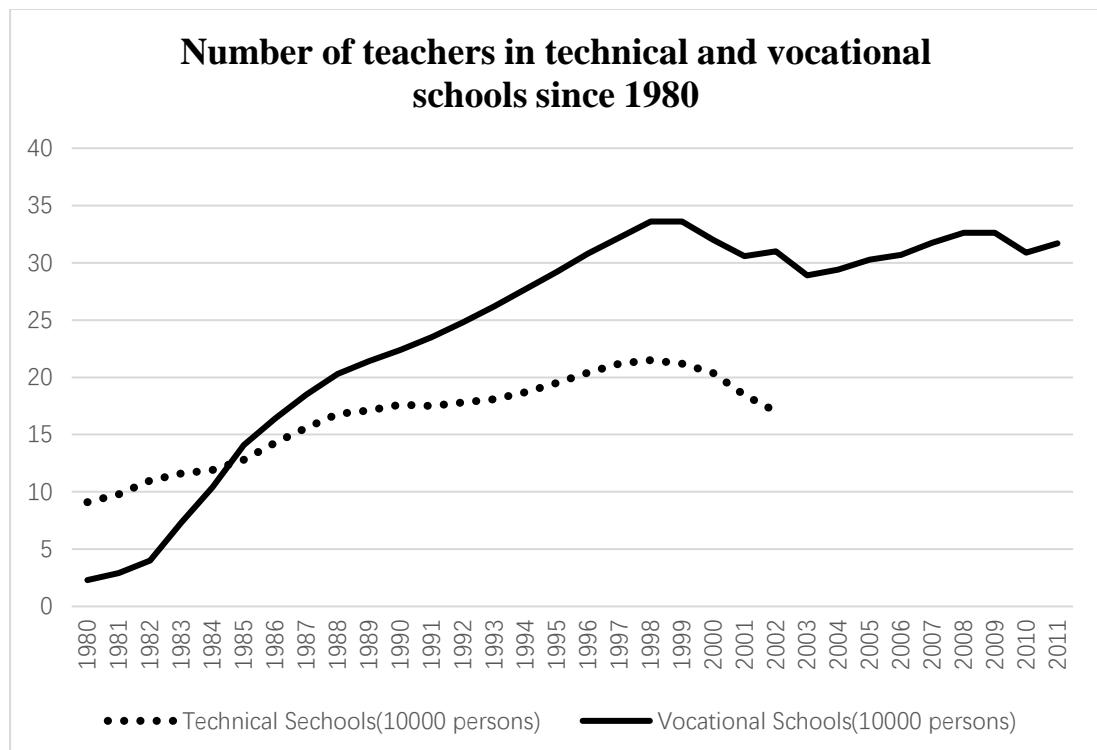
*Figure 4. Number of student enrolment in technical and vocational schools since 1980.*



*Source: China Statistics, national data, education and Culture.*

Figure 4 can be seen that the student enrolment of both technical school and vocational schools was increasing rapidly from 1980 until recent years. In 1980, the number of students in technical schools was 761,000 and the number of students in vocational schools was 454,000. After more than 20 years, the number of students in technical schools was 3,962,400 in 2002 which is 5 times of the number in 1980. The number of students in vocational schools also raised a lot as 5,115,000 people in 2002 and continued increasing until 6,835,700 people in 2011.

Figure 5. Number of teachers in technical and vocational schools since 1980.



Source: China Statistics, national data, education and Culture.

The teachers in technical and vocational schools increased a lot followed the number of the student enrolment since 1980. During the two decades, the number of teachers in technical school increased from 91,000 in 1980 to 170,200 in 2002. The number of teachers in vocational schools raised from 23,000 in 1980 to 317,000 in 2011.

Among three graphs, there is a turning point in each figure around year 1999 starting decreasing since then. It seems that technical and vocational education was shocked severely at that time. In 1999, Chinese education department promulgated a new plan called *Revitalization Educational Action Plan for the 21<sup>st</sup> Century* which aims to push the reform and development of comprehensive education and improve all Chinese people's educational level. Hence, China decided to increase the number of students of higher education schools, especially general academic universities. Then enrol students of higher educational schools increased 4 times in 2009 (Yao, Fang & Zhang, 2013). Many students would rather enter into general universities

than technical and vocational schools, so the number of technical and vocational schools, the enrol students and teachers were all decreased around 1999.

After 2000, the number of schools kept decreasing but the enrolment of the students and number of teachers experienced slightly decreased and then raised again. It is because after 2000, the government encouraged to merge and combine many same level of schools, especially the higher technical and vocational schools in order to optimize the educational structure. Meanwhile, the government still keeps the goal of improving the quality of Chinese people, so the numbers of enrol students and teachers raised sustainable those years after 2000 (Zhao & Lei & Yang, 2004). Through over 30 years' development, there is an increasing number of VET graduates active in the labour market. Therefore, it is meaningful to make research on the employment situation of VET graduates. It is beneficial for the youth to make a choice on education and career, but also can make suggestions to government, enterprises and VET schools.

# 3 Theory and Previous Research

## 3.1 Theoretical Review

Human capital theory was first come up with Gary S. Becker and Theodore W. Schultz who are both American economists in the twentieth century. It was the century when education became the dominant factor determining the wealth of a country and the American people first realized the notion (Goldin & Katz, 2008). They believed that besides of physical capital like warehouse, machine, equipment, raw material, land and currency, there is something can be defined as human capital such as all kinds of productive knowledge, labour and management skills and body health. Actually investing in human capital it refers to the expenditure of education and on-job training plus the opportunity cost of education and training (Becker, 1975).

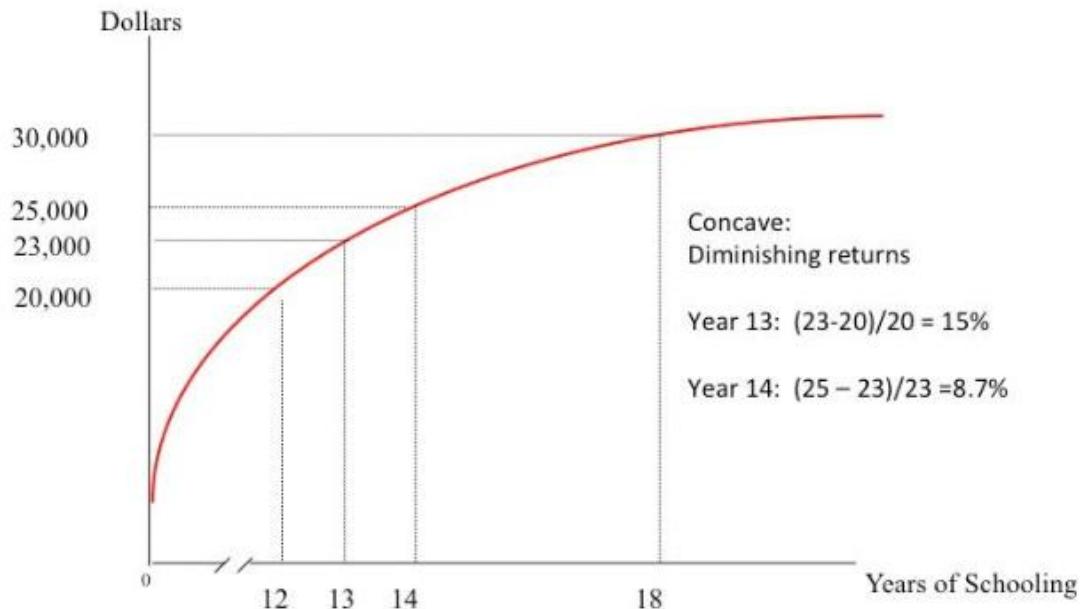
The human capital theory emphasizes the education and training is the determinant of earnings. However, it is not the sole factor, some other elements for instance, age, gender, looks, industry and luck can also influence the income (Borjas, 2016). Therefore, there is a positive correlation between education level and average income but not linearity relation. Education is usually associated with lower unemployment rates and higher earnings (Becker, 1975). Because education can improve the productivity of the workers, and the high productivity leads to the higher income level. Hence, the education level can be regarded as a kind of signal to distinguish an individual is belonging to the highly productive workers or the low productive workers (Borjas, 2016). And people in the higher education level can usually earn much more than the lower education level.

There is a curve called wage-schooling locus which can demonstrate the employers are willing to pay the salary to workers who have different particular education levels. The education level is measured by schooling years. The salary for each level of education is determined by the

supply of workers with that particular education and the demand for those workers (Borjas, 2016). In other words, it is determined by the market.

*Figure 6. Wage-Schooling Locus.*

## Wage-Schooling Locus



*Source: George J. Borjas, 2016. Labour Economics. McGraw-Hill Education.*

The locus has some features can be concluded and analysed to clarify the relationship between wage and education level. Firstly, it obviously can be seen that the locus is upward sloping. From that it can be known that the people who have more educational experience can earn more if the education decision is motivated by financial gains. Secondly, the slope of the locus refers to how much earning can be increased when a person obtaining one more year education. Thirdly, the wage-schooling locus is concave. It means the monetary gains from each additional schooling year are decreased when schooling years increasing. It is similar to the law of diminishing returns. Each additional year of education makes less incremental knowledge and less additional earnings than the previous year (Borjas, 2016).

In general, from the figure above, it could be seen that the salary is positively correlated with schooling years and the workers with higher level of education can earn more than the lower level of education. It could be also predicted that the similar schooling years supposed to lead to the similar salary. In China, there is nine-year compulsory education, besides that there is three years' senior middle school education. The learning period of VET schools ranges from 3 to 4 years, while the university period is 4 years. The VET education is quite similar with general academic school education which is ten years' schooling. Therefore, the salary between VET graduates and general university graduates should be similar. The analysis below in this paper will discuss on different levels of VET students which aims to compare the salary difference and promotion distinction among the graduates with different schooling years.

## 3.2 Previous Research on VET

Becker (1964) classified human capital into two groups—general human capital and specific human capital. In the education system, general human capital is related to general education which provides diversified and universal knowledge, while specific human capital is related to technical and vocational education which provides various kinds of necessary knowledge and skills for specific careers (Wang, 2015). Technical and vocational education, by definition, is on the basis of primary general education, cultivates the graduates to become applied talents needed in specific industries by teaching professional and specialized knowledge, skills and ethics (Ye, Ji & Tang, 1995).

To measure the correlation of VET and employment, there are two important concepts—employment rate and employment quality. In the macro level, employment rate is how many labour resources are used in the labour market, which is calculated by the ratio of the employed to the working age population. Compared with employment rate, employment quality can illustrate more explicitly on education running levels and schooling quality. The employment quality in VET system refers to four aspects that are payment and career development prospects, employment satisfaction, employment stability and job suited rate. These four aspects are mutually interacted as both cause and effect. (Lu, 2009)

In general, throughout the related research in both China and foreign countries, most of them focused on two main fields, one of which is the market demand and employment rate in VET system, the other is market and educational return in the VET system. From the perspective of market demand and the employment rate, it indicates that general education provides more opportunities than VET education for job seekers under the condition of employment and market uncertainty (Heckman, Lochner & Todd, 2003). Iwahashi (2007) pointed out that the labour market would increase more demand for workers graduated from general education than VET education when economic growth reaches a certain stage. On the one side, general education provides the students a good chance to see their potentials and abilities, and makes them to choose the career they are expert in. On the other side, general education could reduce the market uncertainty risk when finding jobs by providing more knowledge realms. Consequently, people are more likely to choose general education in order to reduce the risk of unemployment especially in the economic transformation and industrial structure adjustment (Iwahashi, 2007). Galor & Moay (2000) showed that the VET education cannot follow the step of changeable industries with the rapid technical development in the current era, because specific human capital usually matches with a certain career or positions and it is difficult to change jobs across industries. While general human capital is more adaptable among different positions, companies and sectors. From the angle of companies, different types of companies have different choice preferences towards general or VET education (Brunello & Giannini, 2004). They presented that VET graduates are more effective than general graduates for technical positions, while the general graduates are more flexible and companies prefer to recruit general graduates for common positions. That is to say, VET graduates only have the comparative advantage when the positions match the academic background of students (Brunello & Giannini, 2004).

About the study of China's VET education and employment, Ding & Li (2008) analysed the urban VET education from the perspective of social status, job-searching spell and employment quality based on *China's Urban Residents' Education and Employment Survey in 2004*. They showed that most of the VET students come from families of lower social and economic status. However, compared with ordinary high school graduates, VET graduates have less job-searching spell. In the labour market, the income and professional level have no significant

difference between ordinary high school graduates and VET graduates (Ding & Li, 2008). Wei & Xiao (2008) presented that the average duration of unemployment among VET graduates is 4.4 months less than ordinary high school graduates, but the re-employment opportunities are 3.29 times higher than ordinary high school graduates based on the Xiamen urban unemployment registration data. For the research on employment of farmer VET graduates, it shows that the experiences of VET education and technical training have a significant effect on peasant-workers' employment unit. The peasant-workers have more opportunities to work in the foreign-funded enterprises or joint ventures if they have more schooling years or have the experiences in VET schools. Another finding is that VET education and technical training are beneficial to improve the job satisfaction of peasant-workers (Liu, 2013). In this paper, the authors intend to find out whether the VET education system is helpful for the graduates to find a job in contemporary China. With the reforms of the labour market and the VET education system since 1970s, the authors will analyse the changing trend and effect of VET system to the employment rate of graduates by self-formulated questionnaire.

Other researchers have focused on the labour market and educational returns compared among different education levels. These research mainly utilize econometric analysis and estimated the effect of different educational levels on wages and employment situations. Fuller (1976) indicated that VET graduates have the skills matched with special professions and have the advantage of adopting the special positions quickly, therefore, VET education could improve the productivity of the employees. While Becker (1975) argued that specific human capital could not gain higher market revenue, because it is difficult to adapt to various kinds of industries, enterprises and jobs. It could indicate that in an economy with stable industrial structure and slow technical upgrade, the return of VET education should be higher, because the labour market demand is comparative stable, by contrast, in a transition economy, general education should have higher return because of the dramatic changes of market demand. It shows that in a period of rapid technical development, the return to general education will rise and the return to VET education will go down (Galor & Tsiddon, 1997). Shavit & Muller (1998) argued that VET experiences could improve the probability for the graduates to find a job and avoid the risk of unemployment in the short term, while the VET experiences reduce the opportunities to be promoted and salary increase for the graduates in the long term.

Most of the researchers thought that the return to VET education is higher than general education under the current researches of China's VET education and the market return. By the sample survey data from enterprise employees in 1992, it estimated that individual income rate of specialised education is higher than elementary education (Chu & Wang, 1995). Chen & Min (1998) claimed that the rate of return to VET education is higher than ordinary high school and Min & Zeng (2002) illustrated that the productivity of VET graduates is 6.90 per cent higher than ordinary high school graduates if their jobs are consistent with the learning program. Qu (2013) presented that the return to VET education is significantly higher than ordinary high school based on *China's Urban Labour Sampling Survey in 2010*. Some of the researchers claimed that school type has no significant effect on labour market return. Ding & Li (2008) showed that different graduates from VET schools and ordinary high schools have no significant difference on income and occupation level in the labour market. By the empirical analysis of *Subei Rural Family in 2007*, it estimated that the average return of VET education to the rural family is 1,700 RMB when a family member has the study experiences in VET system and is almost 300 RMB higher than a family without VET education (Zhou, Xu & Xia, 2010).

Throughout the previous research, most of them focused on the employment rate and returns to education. Few of them paid attention to employment quality of career development prospects, employment satisfaction, employment stability and job suited rate. And they always focus on the empirical study that illustrated the effect of education type on either income or employment opportunities. Few of them did a comprehensive study of both employment rate and employment quality based on the same sample. In this paper, the authors aim to illustrate the comprehensive employment situation of current VET graduates in China's labour market from both the employment rate perspective and employment quality perspective based on the self-formulated questionnaire in the automobile industry.

## 4 Methodology

Deductive and inductive approaches are the most basic and commonest ways for most of researches to adopt when doing research (Bryman, 2012). Deductive theory is that a researcher firstly deduces a hypothesis based on a particular domain, then collect the empirical data in order to examine the hypothesis (Bryman, 2012). With an inductive perspective, theory is the outcome of research, which is to say, induction is a process to generalize inferences out of observations (Bryman & Bell, 2011). In terms of this paper, the purpose is to do a comprehensive and synthetical study on the employment situation of Chinese VET graduates without a series of clear hypotheses. Therefore, this paper implements an inductive research approach. From the process of inductive research, data collection should come first. According to the aim and research question of this paper, self-formulated data is more suitable for this study. Because this study will discuss and explore the employment situation for VET graduates in China from several different aspects, and there is no exact secondary data covered all of these aspects. Interviewing and questionnaires are the most familiar ways for collecting data (Bryman, 2012). Compared with these two methods, self-completion questionnaire is used in this paper based on several reasons. Firstly, questionnaires could be distributed in large quantities (Bryman, 2012), then more observations could be gained. For this study, the larger the sample is, the more reliable the results will be. With a large sample, it is more feasible to get valid observations for different ranges of respondents. Secondly, questionnaires are more convenient for respondents to reply (Bryman, 2012). In this study, the main target group is individuals who have studying experiences in VET schools, which are not a higher level of education. It could assume that this group of people would not have enough patience and time to give complicated answers in an interview. With a questionnaire, they can complete with the speed that they want to go (Bryman, 2012). Thirdly, it is cheaper for collecting data by questionnaires if the sample is geographically dispersed (Bryman, 2012). In this study, several regions might be involved, it is more reasonable to use a self-completion questionnaire in this paper.

## 4.1 Questionnaire Design

The first step for questionnaire design is to identify the respondent group related to the research question. Because the research is based on technical and vocational education, the first consideration is the students who are now studying in Chinese technical and vocational schools. This group is easy to find and they are more cooperative for academic research. However, the results of employment status could not be investigated in this group, because they have not entered into the labour market at this time. Then it indicates that the respondent group in the questionnaire should have two characteristics. One is that they should now be working in a company and the other is that they should have the studying experiences in technical and vocational schools. The employees in companies should be more suitable for the research.

Finally, the workers working in the automobile industry are chosen as respondents for the questionnaire. There are several reasons for choosing this group. Firstly, the sector should absorb a large number of graduates from technical and vocational schools, then it could make sure the participants in the questionnaire mostly have the studying experience in technical and vocational schools. If not, the final results will be meaningless. Because of this, we consult a friend who is working in an automobile company and she replied that the company recruit batches of new employees as factory workers from the graduates in technical and vocational schools. So there should be enough eligible respondents in this industry. Secondly, automobile companies need to have a certain scale of production capacity with factories. There are hundreds or thousands of workers working in the factories, which is easier to get a sufficient sample for the questionnaire. Simultaneously, with a large sample, the educational levels and the answers may be more diversified, which will be more comparable and valuable for the further analysis. Thirdly, in general, the survey research poses specific and unexpected challenges in China, because few of the companies are willing to participate in academic research or cooperate with students. To solve the challenges, we need to make use of local networks in approaching the samples in this study. One of the authors comes from Changchun City that is famous as the Motor City and has the first and largest automobile company in China. The personal networks with this company is an efficient way for the questionnaire.

Eventually, there are two companies cooperated with the authors in the questionnaire, which includes five factories. One of the companies is FAW-Volkswagen Automotive Co. Ltd, which is a joint venture between First Automobile Works Group Corporation in China and Volkswagen in Germany. All the respondents in this company are from the factory in Changchun City. The other company is FAW Jiefang Automotive Co. Ltd, which is a state-owned company affiliated to FAW group. The respondents in this company are from four different factories in Changchun City, Dalian City, Qingdao City and Wuxi City.

The second step of the questionnaire is formulating the main structure and questions related to the research question. In this questionnaire, most of the questions are closed questions. According to Bryman (2012), closed questions have several advantages for using a structured questionnaire, which are presented with a range of different fixed alternatives and the respondents should choose an appropriate answer based on their own case. Closed questions are easy for the respondents to answer and for the researchers to process answers, because the respondents only need to place a tick or circle an answer for each question and the code could be mechanically recorded (Bryman, 2012). The answers from closed questions would be more comparable for the researchers and with various different alternatives the respondents could understand the meanings of the questions more clearly (Bryman, 2012). In the case of this questionnaire, all of respondents are factory workers and most of them graduated from technical and vocational schools or with lower education levels. They might be not interested in filling out the questionnaire with lots of open questions or they might give wrong answers because of misunderstanding the questions. Consequently, they might be also not so patient with numbers of open questions that would decrease the validity of the final sample. Another reason for that is the leisure time for them is quite limited at work, because they should be working on the production line. So the questionnaire will be sent during their lunch gap and should not spend too much time. If the questionnaire costs too much time to the workers, they might get bored and be not serious enough to it. So closed questions seem more suitable for this case. However, the disadvantage of closed questions is a loss of spontaneity of the answers that are not covered by the fixed answers (Bryman, 2012). To solve this problem and get diversely interesting answers, the category “Other” has been added for the respondents to write down the different meanings to their own case. The answer time for the questionnaire is controlled within ten minutes.

There are three sections in the questionnaire. In the first section, demographic questions are settled about the respondents such as gender, registered permanent residence (Hukou), educational background as well as their parents' education background (Question 1 to Question 8). All the questions in this section are closed questions. In the second section, it includes questions mainly designed to examine the employment situation of the workers. The questions covered channels of finding jobs, monthly salary, job satisfaction, promotion probability (Question 9 to Question 17). In this section, most of the questions are also closed questions. The question *How did you get the present job?* the category *Other* is added. In order to conduct a standardized comparison and facilitate the further evaluation, a five-point equal interval Likert-scale is used to quantify the questions for job satisfaction and promotion probability, with 1 to 5 meaning highly unsatisfactory/ very low to highly satisfactory/ very high. In the third section, the questions are related to the technical and vocational education system in China, which includes the reason for choosing VET education, the curriculum, the effect and relation to the current job (Question 18 to Question 31). The questions are formulated to find out the problems and future suggestions for Chinese technical and vocational education. In this section, closed questions with category *Other* have been used, as well as the five-point interval. To find out the proportion of practical courses in the total curriculum, four different percentage—0%, 25%, 50%, 75% and above are used for choice.

The third step is preparing for delivery. The questionnaire is initially designed in English and then translated into Chinese. In order to reduce respondents' possibility of misunderstanding with the language barrier and make sure the translation between English and Chinese is as precise as possible, the authors sent the questionnaire to five friends who are also studying in Lund University. They gave feedback and suggestions whether they had different opinions on each of the questions. It is beneficial for the authors to modify and clarify several questions in the final version. After this, the questionnaire was sent to ten workers for testing whether the questionnaire has logical problems or not. After this test, the final version of the questionnaire was constructed.

This questionnaire was distributed in two ways, by hand and by internet. The respondents from factories in Changchun City were sent by hand. One of the authors went to the factories with a friend working in that company and sent the questionnaire one by one during lunch time, and almost all the workers handed in the questionnaire. It is an effective way to achieve a high response rate and at the same time the author could clarify the purpose and the tips for the questionnaire, which is also efficient. It would be too costly to travel to the factories in Dalian, Qingdao and Wuxi, for these respondents, the online investigation is used. The authors have transcribed the questionnaire online, specified the instruction and set rules for filling in. The online website is shared with the factory workers also through the friend working in that company. For the online delivery, the response rate could not be calculated, because the authors could only get the submitted copies. In total, initial response observations are 381 and the valid respondents are 293 with a response rate of 76.90 per cent. The general results are described in the following part.

## 4.2 General Results of the Questionnaire

The total response observations are 381. After rechecking and eliminating the answers, 88 observations have been dropped out from the sample. There are 48 observations who both choose the reason why they chose VET school and the reason why not chose VET school. It could not be verified whether they are VET graduates or not. 19 respondents did not finish all the questions they should fill in and leave several questions blank, so these observations have been omitted. The observations who started to work below 16 or above 30 are dropped from the sample (17 observations), because the legal working age begins at 16 years old in China. This number is calculated from age (2016 minus the birth year) minus general working years. It is realized that people who started to work above 30 are old aged with short working period which is not common. In the end, there are 4 people who chose the highest education are technical and vocational schools, however, they did not have the studying experience in technical and vocational schools. The 4 observations are omitted. Consequently, there are 293 observations in the research sample with the effective rate 76.90 per cent which could show efficiency and success of this questionnaire. For the final sample, 37 observations are from FAW-Volkswagen Automotive Co. Ltd, 126 observations are from FAW Jiefang Automotive

Co. Ltd Changchun factory, 68 observations are from FAW Jiefang Automotive Co. Ltd Dalian factory, 52 observations are from FAW Jiefang Automotive Co. Ltd Qingdao factory, and 10 observations are from FAW Jiefang Automotive Co. Ltd Wuxi factory.

In the first section of the questionnaire, it can be seen that only 11.26 per cent of the observations are female and 88.74 per cent are male. Due to the industrial characteristics, all of the respondents come from the automobile industry and they are all factory workers. The work for them are heavy with high physical demands, so it might not be preferential for companies to recruit female workers, and the result has proved this feature. The ages for the respondents range from 20 to 54. Most of them are below 30 years old (241 observations, 82.25 per cent). It is valuable for the authors to focus on the employment situation and working condition of the young generation. It is also illustrated that most of them just graduated from school, which will be worthy for the further research on technical and vocational education. Residents from urban are more than rural in the sample, with 55.29 per cent and 39.93 per cent respectively, and 4.78 per cent unknown answer. This category should be used for further analysis of the payment distinction among different groups. The distribution of education levels is quite diverse but concentrated with 66.90 per cent technical and vocational school graduates, 11.60 per cent below technical and vocational school level, and 21.50 per cent higher education level. There are observations in each category of education levels, which could use for explicit comparison. Most of them are graduated from technical and vocational schools, which are the main target group of this thesis. It is the effectively valid basis of research. For the mothers' and fathers' education background, most of them are also from the lower education level (below or equal to VET level), only 5.80 per cent of the mothers and 6.48 per cent of the fathers have been to college or above level. It shows the educational transformation in China that the young generation tends to have higher educational background than their parents. Simultaneously, it presents that parents' education level could affect their children's. In this sample, most of them are all from the lower education levels. Then 31.06 per cent of the observations have the experiences in adult education and all of them get the adult undergraduate certificate from the courses. With this result, it is not easy to say that adult education is popular and useful for work or not.

Turn to the following section of the questionnaire, it is interesting to find that school is the most helpful channel for the sample to find a job. About 62.80 per cent of the observations find their jobs through school recommendation. The analysis of such a high degree will be presented in the next part. The general working experiences for the respondents range from 0 to 38 years, the related working experiences and working experiences in this company are also from 0 to 38 years. It indicates that loyalty is quite strong in this industry, while job change and job-hopping frequency are lower. The salaries of most respondents are below 5,500 RMB (86.00 per cent) and the initial salaries are even lower which is below 4,000 RMB (96.25 per cent). The payment level is an important indicator to measure the employment situation, so this result will be analysed detailedly and specifically. Most of the respondents have not been promoted in their work life (72.35 per cent answers 0). There is a strange answer for promotion that one respondent has been promoted for 17 times. 39.25 per cent of the respondents answered 3 for job satisfaction (1~5 from highly unsatisfactory to highly satisfactory). About 35.84 per cent chose higher satisfactory (4 & 5), whereas 24.91 per cent chose lower satisfactory (1 & 2). The probability for promotion is lower than expectation, only 25.94 per cent have stronger ambition for promotion in the future (4 & 5).

The third section is about the technical and vocational education experiences. Firstly, 66.89 per cent of the sample have the studying experiences in technical and vocational schools, which made the proportion sufficient for research and discussion. For reasons why not choose VET schools, the answers are quite diverse, however, the answers are quite concentrated for choosing VET schools. There are approximately 42.86 per cent of them choose VET schools for better income and 26.53 per cent for skill learning. The proportion of practical courses is distributed within 0 per cent (9 observations), 25 per cent (71 observations), 50 per cent (92 observations) and 75 per cent and above (24 observations). A large number of respondents chose the job consistent with studying programme (65.82 per cent). And 78.57 per cent of the graduates have the opinion that VET education is helpful for finding jobs, which is consistent with the job channel (Question 9). For the degree of the different knowledge applied for the current job, the results are not surprised that the medium level has the abnormal response. And almost 73.47 per cent of the graduates suggest that the VET school should add more social capacity courses in the future.

There are a few limitations of the data sample in this research. We have got 293 effective observations among 381 responses. Firstly, the young people below 30 years old occupied the most proportion of the sample. There are just ten more per cent of observations are beyond 30 years old. The bias of the sample would cause the obstacles to compare youth and elder people. Maybe the conclusions related to elderly people would not be so convinced. Besides, the sample in the questionnaire only cover three regions—northeast, east and southeast in China, it is too narrow to represent the whole country. China is large and there are regional diversity and cultural distinction within different areas. What's more, the names and organizational forms of technical and vocational education are disordered in different countries, especially in China. And the translation and meanings might be different among countries. So it will make a bias when compared with different countries.

# 5 Analysis and Discussion

## 5.1 Employment Situation Analysis

### 5.1.1 Wage

Wage is an important indicator of the return to education and a great number of researches are based on this aspect. In the formulated questionnaire, two questions are focused on wages which are initial wages and current wages. To start with, the basic situation of employees' initial wages is measured in different educational background, gender, hukou system, and factories. The studying years in VET schools will be also taken into consideration in order to get comprehensive results for wages of VET graduates. Then, current wages will be investigated to compare the influence of career development prospect.

In formulating the questionnaire, seven levels are set up for both initial monthly salary and current monthly salary from low level to high level, which are Level 1 *below 2500 yuan*, Level 2 *2501-4000 yuan*, Level 3 *4001-5500 yuan*, Level 4 *5501-7000 yuan*, Level 5 *7001-8500 yuan*, Level 6 *8501-10000 yuan* and Level 7 *Above 10000 yuan*. The average level of initial monthly salary for the whole sample is 1.47 about 2,500 yuan and the level of current monthly salary is 2.50, about 4,000 yuan. From a perspective of gender, initial monthly salary level for male is 1.45 and 1.61 for female. Current salary level for male is 2.50, and 2.45 for female in the entire sample. Both initial and current salary level between male and female are not significantly different and the difference is less than one level. Meanwhile, the number of male respondents and female respondents is imbalance, with 260 and only 33 respectively. Based on the two points, therefore, gender will not be focused on when researching on wage. From hukou system, there are 162 respondents from the urban areas with the initial monthly salary level of 1.46 and current monthly salary level of 2.65, by contrast, 117 respondents from the rural areas with the initial monthly salary level of 1.52 and current salary level of 2.34 which are also without significant difference. Consequently, hukou system will be also ignored in this section. From different factories, the employees of FAW-Volkswagen have the highest initial monthly salary

and current monthly salary with 1.43 and 3.73 respectively, which are far more than other four factories. So the property right will be discussed in the paper below. (See Table 1)

*Table 1. Overview of average initial and current monthly salary level of the whole sample.*

	<b>Classification</b>	<b>Numbers of Observations</b>	<b>Average initial monthly salary level</b>	<b>Average current monthly salary level</b>
<b>Gender</b>	Male	260	1.45	2.50
	Female	33	1.61	2.45
<b>Hukou type</b>	Urban	162	1.46	2.65
	Rural	117	1.52	2.34
<b>Educational level</b>	Lower level	34	1.38	1.88
	VET level	196	1.42	2.29
	Higher level	63	1.75	3.37
<b>Total</b>		<b>293</b>	<b>1.47</b>	<b>2.50</b>

As presented in China News (2015), from Chinese national bureau of statistics data, the personal average annual salary for production, transportation, equipment operation individuals in northeast China is 40,516 RMB in 2015, about 3,376.33 RMB monthly. The personal average annual salary for the manufacturing sector is 55,324 RMB, about 4,610.33 RMB monthly. In the questionnaire, the average current monthly salary level is 2.50, which is at a similar level of the statistical data. Therefore, the salary level in this sample is reasonable and convincing for illustrating the situation in the labour market. If different educational background is involved, compared with lower educational levels, the initial monthly salary level for VET graduates is 1.42, and 1.38 for lower level educational background with the difference of 0.04. And the difference of current monthly salary level between these two groups is 0.41, with 2.29 for VET graduates and 1.88 for lower level graduates. The initial salary level is quite similar. Though the current level is a little bit different from each other, the difference is still less than one level, which is about 2,500 RMB. With the comparison between VET graduates and higher level graduates, the initial monthly salary level for higher level graduates is 1.75, 0.33 more than VET graduates. The current level for higher level graduates is 3.37, 1.08 more than VET graduates. (See Table 1) From these results, initial salary is not significantly different between

VET and higher education. However, the gap is gradually increasing with the increase of working experiences.

Because working experiences could affect the wage level of employees. If the 17 respondents whose related working experiences are more than ten years are dropped out. Only the young VET graduates are assessed. The similar result is as following: initial monthly salary level for young VET graduates is 1.43 and the current level is 2.23. The initial monthly salary level for young higher level education graduates is 1.82 and the current level is 3.1. The initial level for higher education is 0.39 more than VET education and 0.87 more of current salary level. The gap is still increasing. Although VET education is helpful for graduates to seek a job, the salary is not optimistic in the long term. It could speculate that there is a limitation for VET graduates to obtain the same career resources and promotion chances as higher education graduates in the workplace, which causes the long-term wage gap.

*Table 2. Average initial and current monthly salary level among VET groups.*

	<b>Classification</b>	<b>Numbers of observations</b>	<b>All VET students</b>		<b>VET students related working experiences less than ten years</b>	
			<b>Average initial monthly salary level</b>	<b>Average current monthly salary level</b>	<b>Average initial monthly salary level</b>	<b>Average current monthly salary level</b>
<b>Factories</b>	FAW-Volkswagen	16	1.63	3.38	1.77	3.23
	Jiefang Changchun	97	1.37	2.07	1.35	2.07
	Jiefang Dalian	46	1.50	2.43	1.53	2.35
	Jiefang Qingdao	32	1.38	2.13	1.37	2.07
	Jiefang Wuxi	5	1.40	2.60	1.40	2.60
<b>VET study years</b>	Less than three years	54	1.39	2.17	1.40	2.12
	Three years	125	1.46	2.34	1.45	2.31
	More than three years	17	1.29	2.24	1.36	2.00

In the following, the property rights of different factories will be analysed. With the whole VET graduates, it shows that the initial salary level and current wage level of employees in FAW-Volkswagen are far more than each factory of FAW Jiefang. Looking into the two factories in Changchun City, average initial monthly salary level for VET graduates in FAW-Volkswagen is 1.63, which is 0.26 more than FAW Jiefang (1.37). The current salary level for VET graduates in FAW-Volkswagen is 3.38 and 2.07 for FAW Jiefang. The gap is more than one level. It could imply that working in foreign-funded companies could get more reward in the long run. Looking into four different locations with FAW Jiefang company, the initial and current salary levels are at similar level among Changchun, Dalian (Northeast China), Qingdao (East China), and Wuxi (Southeast China). (See Table 2) If the respondents whose related working experiences are more than ten years are dropped out, the same result will also be gained. It illustrates that it is more advantageous for VET graduates working for foreign-funded companies.

Finally, studying years in VET schools will be discussed. It assumes that the more studying years an individual has, the more professional skills the individual should have. One with more studying years should be a high-level technical talent and should have more wages. In this sample, three levels of studying year are classified, which are Level 1 *less than three years*, Level 2 *three years*, and Level 3 *more than three years*. From the results, there is no big difference among the three levels both on initial monthly salary level and current monthly salary level. For initial level, Level 1 is 1.39, Level 2 is 1.46 and Level 3 is 1.29, which is quite surprising. Because graduates with longest studying years in VET schools have the lowest salary. For the current salary level, Level 1 is 2.17, Level 2 is 2.34 and Level 3 is 2.24. (See Table 2) This result might indicate that the problem is remaining in cultivating senior technical talents for China's VET education. With the increase of studying years and the rank of learning levels, the graduates could not meet the requirement of production, which leads to rare leap for wage. The similar result will also exist if we only look into the younger VET graduates with related working experiences less than ten years. It demonstrates that ranking classification of current VET system could not adapt to the demand for senior technical talents. On the one hand, with the increase of studying years, there is no actual salary gap for VET graduates. On the other hand, no matter how many years the respondents learned in VET schools, their wages are not high enough, which belong to an average level or below average with a big gap from the

higher education level. Therefore, although China's VET education plays a positive role in the employment rate for graduates, it also has its drawbacks on cultivating senior technical talents.

### 5.1.2 Promotion

The probability of promotion for employees is regarded as a significant indicator for evaluating the value of human capital to some extent. As for employees, promotion refers to the upward movement in present job leading to greater responsibilities, higher status and better salary (Promotions of employee). It seems like promotions are associated with large wage increases (Gibbons & Waldman, 1999). Labour economics also suggests that promotion is an important source of wage growth (McCue, 1996) because as for an employer, promotion represents the approval and incentive for an employee creating more interests and making better development for the company.

We would like to explore the potential capacity for the job of the workers who have the technical and vocational school learning experience through promotion related questions. Two questions were designed concerning the promotion in the questionnaire. One asking for promotion times and the other asking for the probabilities to be promoted. Respondents need to fill in the blanks for promotion times and make a multiple choice for evaluating the possibilities to be promoted. There are 5 levels can be chosen ranges from 1 to 5 refers to very low to very high. The question of promotion times can make a research for the real promotion situation and consider about most of observations are young people who maybe have not many promotion times so the question of the probabilities for promotion was designed for predicting the future promotion situation according to the respondents' own choice.

Through sorting and analysing the 293 valid observations among the whole sample, there is one observation could be dropped for the reason which is an outlier for being promoted for 17 time in the career life. The rest of observations for the question promotion times are 292. Among these observations, all their answers are ranging from 0 times to 4 times. There 72.6 per cent of observations have never been promoted and 18.15 per cent observations only have been

promoted for one time. Below 10 per cent of them have been promoted beyond one time. Here the general image we can get is the promotion times are extremely low among those observations. Perhaps it is because in the sample most of the observations are young people who do not have enough seniority to be promoted. As known that the one who makes more contribution than other workers for the company has a high probability to be promoted. Table 3 is made according to the questions about the working experience and shows the number of observations on each promotion time by related working years. It aims to find out the relationship between promotion times and related working experiences.

*Table 3. Promotion times of different related working years.*

Promotion times Related working years	0 time	1 time	2 times	3 times	4 times	Total
<b>0-4 years</b>	108	26	5	2	0	<b>141</b>
<b>5-9 years</b>	82	14	13	1	1	<b>111</b>
<b>10-14 years</b>	16	8	3	1	0	<b>28</b>
<b>15-19 years</b>	2	2	0	1	0	<b>5</b>
<b>&gt;=20 years</b>	4	3	0	0	0	<b>7</b>
<b>Total</b>	<b>212</b>	<b>53</b>	<b>21</b>	<b>5</b>	<b>1</b>	<b>292</b>

Firstly, it is obvious that most of the observations in the sample have the related working experience under 10 years. There are 40 observations have 10 more years related working experience which is only 13.70 per cent. Secondly, as the table shows, many observations have never been promoted, especially the workers who have the related working experience under 5 years. Due to there are few observations belong to 15 to 19 years and beyond 20 years related working experience, it is not convinced to demonstrate any conclusion. Then in Figure 7 we only consider the first three groups.

*Figure 7. Promotion times of different working years (0-14 years).*

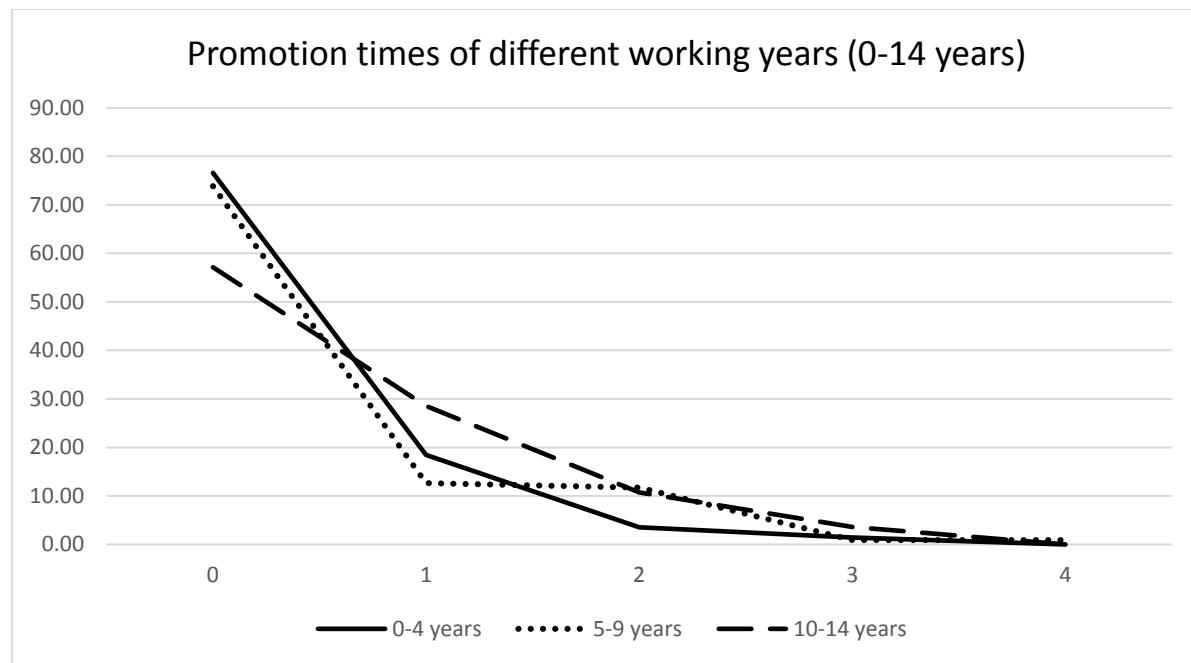


Figure 7 presents the proportion of observations on each promotion time of related working experience. When only concerning 0 time, it could be found that the workers who have the least related working experience have the largest amount. The group 10 to 14 years working experience has the least number of 0 promotion time. When looking at 1 and 2 promotion times, the more related working experience, there is the larger proportion of observations. As for 3 times and 4 times, both of them have an extremely low proportion. It could be concluded that the related working experience has the positive correlation with promotion times, but it can only indicate when in the very low frequency promotion times.

Excluding those who do not have technical and vocational studying experience, there are 195 observations left. Then the same analysis has been made, it does not make any big difference. Table 4 compares the mean value of promotion times between the big sample and the group of technical and vocational school graduates.

*Table 4. Mean value of promotion times between big sample and VET sample.*

Working experience	Mean (promotion times)			
	Big sample	freq.	VET	freq.
<b>0-4 years</b>	0.30	141	0.15	95
<b>5-9 years</b>	0.42	111	0.36	83
<b>10-14 years</b>	0.61	28	0.29	14
<b>15-19 years</b>	1.00	5	1.50	2
<b>&gt;=20 years</b>	0.43	7	0.00	1
<b>Total</b>	<b>2.76</b>	<b>292</b>	<b>2.29</b>	<b>195</b>

From 0 years to 14 years the mean value of each group of working experience is all below 1 and the means of VET are all smaller than the big sample. For the group of 15 to 19 years, the mean value is still not high stay below 2. Compared to the total mean of promotion times, VET is also smaller than the big sample. It could be said that the promotion times of technical and vocational school graduates are rarer than the whole average observations. Compared with the big sample, this group of the labour force does not have enough potential capacity for self-development. The experience of technical and vocational education is unhelpful for promotion.

For analysing the question of the probabilities for promotion, we made accounting among the answers and get the proportion of observations on each level of probability. The highest rank is level 1 refers to very low which was chosen by 91 respondents occupied 31.06 per cent. There are 76 respondents chose level 2 which is 25.94 per cent. Level 3 and level 5 are almost equal which are 17.06 per cent and 16.38 per cent respectively. Level 4 is the lowest choice which is below 10 per cent. More than half of the respondents thought they have a low probability to be promoted.

In order to focus on the group of technical and vocational school graduates, all respondents without the VET experience were excluded and will be analysed separately with those who

have the VET experience. Among all the respondents, 196 of them have the experience of studying in technical and vocational schools. To investigate if the longer time of technical and vocational studying experience is beneficial for promotion, we made three categories based on the question of studying years which are less than three years, three years and more than three years to analyse the correlation on promotion probabilities.

*Table 5. The promotion probability of five levels of different studying years and the mean value of promotion probabilities of different studying years.*

	Studying years	Less 3 years	3 years	Over 3 years	VET	Non-VET	Total
Promotion Probability	1	17	35	5	57	34	91
		31.48%	28.00%	29.41%	29.08%	35.05%	31.06%
	2	13	46	3	62	14	76
		24.07%	36.80%	17.65%	31.63%	14.43%	25.94%
	3	8	20	7	35	15	50
		14.81%	16.00%	41.18%	17.86%	15.46%	17.06%
	4	5	12	1	18	10	28
		9.26%	9.60%	5.88%	9.18%	10.31%	9.56%
	5	11	12	1	24	24	48
		20.37%	9.60%	5.88%	12.24%	24.74%	16.38%
	<b>Total</b>	54	125	17	196	97	293
<b>Summary of Mean</b>		2.63	2.36	2.41	2.44	2.75	
<b>Promotion Std. Dev.</b>		1.52088	1.25338	1.17574	1.32484	0.16387	
<b>Probability Freq.</b>		54	125	17	196	97	293

*Figure 8. VET graduates' promotion probabilities sorting by studying years.*

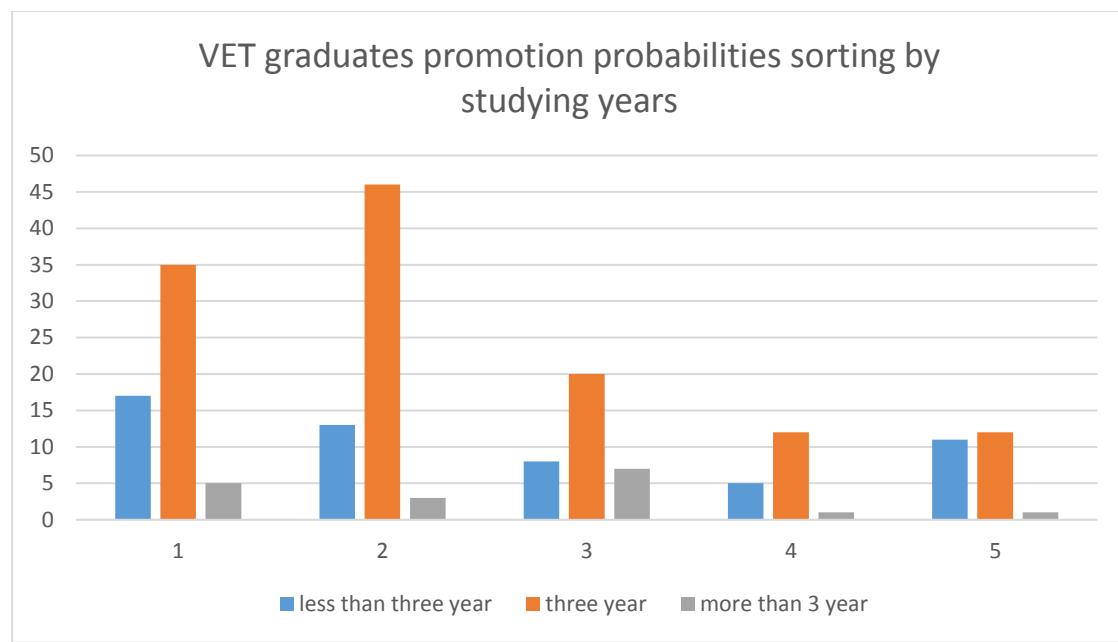


Table 5 clearly demonstrates the numbers and proportion on each promotion probability sorting by VET studying years categorized of below three years, three years and more than three years. For the first glance, most of them have three years VET studying experience. Those respondents mostly concentrate on level 1 and level 2 for almost reach 65 per cent. More than 50 per cent of respondents who have less than three years' studying experience also chose low probabilities of level 1 and level 2. However, as we can see, with several studying years increased, there is not much respondents chose the high probabilities of level 4 and level 5. Here we could investigate that there is very low probability for promotion among the technical and vocational school graduates. What's more, when comparing the mean value between VET group and non-VET group, it can be noticed that the mean value of promotion probabilities for VET group is lower than the non-VET group. In the other word, technical and vocational studying experience is not helpful for promotion according to the result.

After the analysis of these two promotion questions, there are some conclusions can be gotten. The workers with technical and vocational education background do not have much potential for promotion compare to non-VET graduates who are mostly undergraduates in the sample. Most of them have never been promoted in the past and thought themselves have low probabilities to be promoted in the future. The technical and vocational school graduates have

the lower education degree than the undergraduates. The employers usually prefer to give the promotion opportunities to the workers who have better education background. The general human capital has the advantage to adopt different kinds of jobs, but the specific human capital has the limitation constrained them in one specific area.

### 5.1.3 Employment Rate

Employment rate is considered as a key factor to evaluate the quality of school education. In China, the employment rate for technical and vocational graduates is 96.85 per cent in 2012 (China Youth Daily, 2013) which is higher than the undergraduates (91.5 per cent) in the same years (Report of Chinese undergraduates' employment situation, 2012).

Since the technical and vocational school graduates make the high employment rate, we were curious about their channels to get the job. Therefore, the question *How did you get your job* was designed in the questionnaire to ask for their job channels. Six alternative answers were put under the question for choosing. The first choice is assigned by the government which may be different from most of the European countries. Before 1980s, China is a central planned economic country and the government decides all the great events. Since 1950, the next year of China's independence, the government set up the institution of assigning jobs for all the undergraduates according to the urgent labour demand for development in different area. The students did not need to find jobs by themselves and just obeyed the job decision from the government. This kind of institution implemented until 1996, when the Chinese government found the weakness of assigned by the government such as the lack of competition, difficult to make human resources allocated reasonable and the conflicts with market-oriented economy after the reform in 1978. Therefore, in 1996 Chinese government totally stopped assigning jobs for undergraduates. According to this historical fact, the workers around 40 years old or elder probably got their jobs assigned by the government. The second choice is recommended by the school. Some technical and vocational schools are cooperated with some factories and enterprises. For schools, it is helpful for their graduates to find jobs and it can improve their employment rate. For factories and enterprises, it provides a variety of stable labour resources for the basic technical positions. The cooperation is beneficial for both schools and factories.

The third choice is obtained job through an employment agency such as internet, newspaper and recruitment fairs. Currently it is quite popular for students to look for job information through the internet. Most of enterprises and factories would put the recruitment advertisement on the internet and newspapers. Recruitment fairs also provide such kind of information. The fourth choice is introduced by relatives or friends which is a kind of reliable channel for most students. The fifth choice is inherited the job. It was quite prevalent among state-owned enterprises and collective enterprises from 1970s to 1980s. The youth could take over the position of their parents when they quit or retired (*Zi Nv Ding Ti Zhi Du*) as a kind of preferential policy for the workers in state-owned enterprises and collective enterprises. This institution at that time was aimed to make the society more stable and release the pressure of unemployment. Nevertheless, it led to the problem of taking in lots of low quality labour force and lack of skilled workers. This alternative choice was set up for the workers who are belonging to the age group from 40 to 60 years old. And the last choice *Others* was set in case of other kinds of answers which may ignore by the authors.

It is clear that over 60 per cent of respondents chose recommended by the school. 12.29 per cent of respondents selected the employment agency and 9.22 per cent of them were through the introduction by friends and relatives. Only 3.07 per cent and 1.71 per cent of respondents chose assigned by government and inherited from parents respectively. Among the answers of *Others*, most of the respondents wrote the contract with the third party which can also belong to a kind of employment agency. It is perhaps due to most of the observations are young people who below 30 years old, this generation is different from the old one who can be inherited the job from parents and the government was responsible for assigning job for them at that time. Hence, it is a kind of historic reason for choosing a different answer to this question. Most young people chose recommended by schools and obtained a job through internet or newspapers.

After excluded the observations who do not have the technical and vocational studying experience, the rest of the sample is 196. We analyse it by making separately of urban and rural area based on the question of Hukou in order to investigate the job channels in different area.

Table 6. Job channels sorting by Hukou.

	Hukou	Urban	Rural	Unknown	Total
Job Channels	Government	5	1	0	6
		5.26%	1.14%	0.00%	3.06%
	School	61	76	3	140
		64.21%	86.36%	23.08%	71.43%
	Agency	7	3	0	10
		7.37%	3.41%	0.00%	5.10%
	Relatives and friends	9	6	0	15
		9.47%	6.82%	0.00%	7.65%
	Others	13	2	10	25
		13.68%	2.27%	76.92%	12.76%
Total		<b>95</b>	<b>88</b>	<b>13</b>	<b>196</b>

Table 6 clearly presents the numbers and proportion of observations on each choice of job channels sorting by urban and rural area. As we can see that there are almost equal observations of urban and rural area, ignored 13 respondents who do not know. It still can be seen that most of the respondents chose school channel, 64.21 per cent of urban respondents and 86.36 per cent rural respondents. For urban citizens, they have more information channels than rural residents and school is not the only channel for them to find a job. Urban citizens can easily access to all kinds of employment agencies to get the related information because most employment agencies are located in urban cities. Urban citizens have the advantages of wider networking, through relatives and friends to get more information. Rural residents do not have the strong networking, many relatives and friends of them perhaps have the lower education level and do not care about these kind of information. The best and reliable channel for them is school recommendation. In China, there is severely unbalance of development between rural and urban area. Hence, the opportunities of employment are also disequilibrium for rural and urban residents. So for the rural residents, they mostly rely on the technical and vocational schools to provide them recommendation. The experience of technical and vocational education is more beneficial for rural residents to find a job than urban citizens.

The respondents chosen school recommendation are mostly young people who belong to 20 to 29 years old. There are only 12.14 per cent of them are middle-aged people ranged from 30 to

39 years old. It indicates that there is a good trend for development of school recommendation channel to find jobs. More and more students rely on it and find jobs through this channel. School plays an important role in providing information about recruitment currently. Because many technical and vocational schools make the cooperation with some enterprises to help their graduates to be employed and improve schools' employment rate. The schools provide the information and access for their graduates to get a job. However, during the period when the middle-aged people sought jobs, school recommendation is not the main channel. It may result from there are few observations who belong to middle aged people in the sample.

There is one question in the questionnaire directly asked *Is your technical and vocational education experience helpful for you to find a job?* About 78 per cent of respondents chose yes. Another question asked the reason why they chose technical and vocational school, approximate 43 per cent respondent chose the answer that they want to gain better work opportunities and earn a better income with a technical and vocational school degree. 25 per cent of them chose that they want to learn skills. Considered from the side of answers, it could be said that a large part of people thought that the VET experience can help them find a better job and earn more, so they entered into this kind of school.

Through the analysis above it can be noticed that there are more rural VET graduates relied on schools when seeking for jobs compared to urban VET graduates. As for rural students, VET schools are helpful for them to get jobs. In addition, there are many young people found jobs through VET school recommendation. The VET school can introduce more suitable jobs for VET graduates which are beneficial to improve their employment rate to some extent.

#### 5.1.4 Job Satisfaction

Job satisfaction is a pleasurable or positive emotional state resulting from the assessment of one's job or job experiences (Locke, 1976), which leads to various outcomes, such as employees' mental and physical health and overall life satisfaction (Luo, 2014). Job satisfaction is an important indicator to measure the quality of work life (Lu, 2009; Luo, 2014). In this paper,

the authors will analyse job satisfaction of graduates from VET schools comprehensively in four aspects based on the self-formulated questionnaire. The four aspects are gender, age range, registered permanent residence type (Hukou system), and enterprises ownership.

In the questionnaire, there is one question that is designed for job satisfaction—Question No. 16 *How do you like your current job?* There are five equal intervals for each level of job satisfaction, with 1 to 5 meaning highly unsatisfactory, unsatisfactory, medium, satisfactory, and highly satisfactory. Among the sample, in general, 33 respondents chose 1 (11.26 per cent), 40 respondents chose 2 (13.65 per cent), and unsurprisingly most of respondents chose 3 (39.25 per cent), 49 respondents chose 4 (16.72 per cent), 56 respondents chose the highest 5 (19.11 per cent). (See Table 7) Then, Option 1 and option 2 are treated as unsatisfactory, and Option 4 and option 5 are treated as satisfactory. In this sample, it is indicated that 24.91 per cent have low job satisfaction, whereas 35.83 per cent have high job satisfaction. And the average job satisfaction for the whole sample is 3.19, which is higher than the medium value of 3. Therefore, we could say job satisfaction for this sample is comparatively high. In this section, job satisfaction of graduates from VET system is mainly focused on in four aspects, which are from the perspective of gender, hukou system, property rights and age range.

*Table 7. Job satisfaction analysis.*

	<b>Satisfaction option</b>	<b>Whole sample</b>		<b>VET students</b>	
		<b>Numbers of observations</b>	<b>Percentage</b>	<b>Numbers of observations</b>	<b>Percentage</b>
<b>unsatisfactory</b>	1	33	11.26%	20	10.20%
	2	40	13.65%	28	14.29%
	<b>total</b>	73	24.91%	48	24.49%
<b>medium</b>	3	115	39.25%	85	43.37%
<b>satisfactory</b>	4	49	16.72%	30	15.31%
	5	56	19.11%	33	16.84%
	<b>total</b>	105	35.83%	63	32.15%
<b>Total</b>		293	100.00%	196	100.00%

Generally speaking, among VET students, the proportion of 10.20 per cent chose 1 for job satisfaction with 20 respondents, 14.29 per cent chose 2 with 28 respondents, 43.37 per cent chose 3 with 85 respondents, 15.31 per cent chose 4 with 30 respondents and 16.84 per cent chose 5 with 33 respondents. And the average job satisfaction of VET graduates is 3.14, lower than the value for the whole sample. And compared with other education levels, job satisfaction for VET graduates is higher than lower level education graduates (3.06), but lower than higher level education graduates (3.27). (See Table 7) It is proved that higher education graduates have the highest job satisfaction. Education has a significant effect on job satisfaction. Because job satisfaction could be affected by various of different elements, such as wages, working environment, working atmosphere, working conditions, working prospects, or even personal emotions, etc. Because VET graduates' employment situation is the core subject in this paper, we are not going to discuss these elements for different education levels. However, it could be implied that higher education graduates could get better job resources, such as higher initial income, better positions, and more optimistic job prospect. Consequently, it is not doubted that people with higher education level could have higher job satisfaction than other lower level graduates. Then in the following, different perspectives among VET graduates will be discussed in detail.

Firstly, the correlations between job satisfaction and age range will be discussed. Followed by the ranges we classified before, there are 170 young VET students, 25 middle-aged, and one old-aged in the sample. Among the group, the average job satisfaction for young VET students is 3.17, 2.92 and 5 for middle-aged and old-aged respectively. (See Table 8) However, there is only one respondent who belongs to the old-aged range, the result of this group is doubtful. From this classification, the average job satisfaction for young respondents is higher than average job satisfaction for the whole VET group.

Secondly, the correlation between job satisfaction and gender will be discussed. It can be seen from the sample, male VET respondents have significantly higher average job satisfaction than female respondents (3.16 versus 2.40). The result is consistent with most of the researches of other scholars (Luo, 2014; Loscocco & Bose, 1998). Historically, Chinese women always suffered from discrimination in family life, political life and career life, because women are not

allowed to work and had no income themselves, and there is a special tradition in old China that a woman are subordinated to her father in the early age, her husband in middle age and her son in old age (Jiang & Yang, 2011). Since the founding of People's Republic of China, especially the reform from 1978, the social status of women has been improved, women could have the opportunity to compete with men in different fields. Even so, women still lag behind men in the labour market with lower pay, fewer opportunities for promotion, fewer benefits and so on in contemporary China. Although women could achieve similar education levels and have similar employment skills as men, they need to spend more time than men in taking more responsibilities for their families such as looking after parents, taking care of babies, house cleaning. Therefore, it is not surprising that women have lower job satisfaction. However, the gender proportion is unbalanced in this sample with only five women among 196 VET respondents, which is a limitation for the conclusion.

Thirdly, job satisfaction will be analysed from the perspective of hukou system. Among all 196 VET respondents, there are 95 from urban areas, and 88 of them come from rural areas. The average job satisfaction is 2.97 for the urban respondents, compared to 3.32 for the rural respondents. There are 13 respondents who do not know their hukou system, the analysis will exclude this group. It shows that rural VET respondents have distinctively higher job satisfaction than urban respondents. On the one side, most of the rural people are dependent on agriculture for a living, which the working environment is tough, income is labile because of the effect of natural conditions and natural disasters. On the other side, with the reform of labour market, more and more rural residents' migrant into cities. Due to the lack of education of the rural population, most of them could only find jobs with lower positions and wages as temporary workers. These temporary workers could not get the same security as formal employees. And for rural VET graduates in this sample, they not only get a formal contract with famous companies, but also the income and stability have been improved compared with the former life. Therefore, they are easy to get higher satisfaction. It could be implied that the VET system is more beneficial for the rural areas.

Fourthly, we will look at different factories. The average job satisfaction for workers at FAW-Volkswagen is 3.56, FAW Jiefang Changchun is 3.19, FAW Jiefang Dalian is 3.00, FAW

Jiefang Qingdao is 3.06 and FAW Jiefang Wuxi is 2.80. Comparatively speaking, we could say that workers in foreign-funded enterprise have the highest job satisfaction. After the Open Door Policy, for one thing, foreign-funded enterprises have higher wages than state-owned and private enterprises. Simultaneously, laws and regulations have strict stipulations to foreign-funded enterprises on salary, treatment, etc. It is not surprising that workers on foreign-funded enterprises could have higher satisfaction.

*Table 8. Average job satisfaction among different groups of VET students.*

	<b>Classification</b>	<b>Numbers of Observations</b>	<b>Average job satisfaction</b>
<b>Age range</b>	Young	170	3.16
	Middle-aged	25	2.92
	Old-aged	1	5
<b>Gender</b>	Male	191	3.16
	Female	5	2.4
<b>Hukou type</b>	Urban	95	2.97
	Rural	88	3.31
<b>Factories</b>	FAW-Volkswagen	16	3.56
	Jiefang Changchun	97	3.18
	Jiefang Dalian	46	3
	Jiefang Qingdao	32	3.06
	Jiefang Wuxi	5	2.8

Under the comparative analysis of job satisfaction, it indicates that young VET graduates have higher job satisfaction, but the difference compared to middle-aged graduates is not significant. Female workers have significantly lower satisfaction than male, however it is not reliable due to the sample limitation. Rural VET graduates have higher satisfaction. And workers from foreign-funded enterprises have higher satisfaction. Then, it could imply that the development of VET education has a positive role for young people entering into labour market. It could not only drive the employment rate of the youngster, but also improve the job satisfaction of them. And accelerating rural VET system is particularly important. Foreign-funded enterprises are more competitive than other property rights in attracting high-tech talents.

### 5.1.5 Employment stability & job suited rate

Employment stability and job suited rate are the other two indicators to measure employment quality (Lu, 2009). There is no direct question related to employment stability in the questionnaire, however, it could be estimated by the working experience questions (general working experience, related working experience and working experience in this company). And for job suited rate, there is one question about that—Question No. 26 *Is your current job consistent with your studying programme?* In this section, the two indicators will be illustrated in two different perspectives, which are among different age range and different factories.

Because there are several special equipments in the automobile factories and most of the workers are skills based. There is less probability for job-hopping across industries. Therefore, we only take job-hopping of related industries into consideration in this paper. For discussing the employment stability, a new variable is created as *experience gap*, which is equal to years of experiences in related industries (including the experiences in this company and related industries) minus years of experiences in this company. If the value of the *experience gap* is 0, it means that the individual has no experience of job-hopping with high employment stability. And the employment stability rate is the percentage of the *experience gap* equals to 0. Employment stability, in the perspective of employees, is a reflection of working conditions and job satisfaction and in the perspective of employers, is a reflection of loyalty, which could show the capacity of absorbing and retaining talents. In purpose of exploring labour markets after the reform since 1978, we intend to see if there is any changeable trend towards job-hopping among the old generation and the new generation. And after the Open Door Policy, what is the latest trend for different property right?

In this sample, the total observations are 293, and there are 265 observations with experience gap equals to 0, the rate is 90.44 per cent, we could see that the stability is extremely high for this sample (See Table 9). If look at the graduates from VET system, there are 196 observations with 178 *experience gap* equals to 0 and the rate is approximately 90.82 per cent. The difference between VET graduates and the whole sample is not significantly different. The experiences in VET system could not have a great effect on employment stability. From this sample, we could indicate that employment stability might be affected by industries and scale of companies. All

the respondents are from automobile factories in two big companies which are FAW Volkswagen and FAW Jiefang. Basically, these two companies are the most famous automobile companies in Changchun City. Although there are four factories of FAW Jiefang Automotive Co.Ltd from different locations in the questionnaire, the administrative subordination still managed by the mother company in Changchun City. Therefore, it is reasonable for this sample to have high employment stability. And we could imply that big scale of companies would have higher employment stability, which could not only provide high conditions for the employees, but could absorb higher talents. From the *experience gap*, we could see that VET graduates in FAW-Volkswagen have the *experience gap* of 93.75 per cent and FAW Jiefang with 90.56 per cent (See Table 9). Both of them are in a high percentage, which could demonstrate the previous standpoint.

*Table 9. Job stability analysis from the perspective of factories and age range.*

Classification	Number of observations	Experience gap equals to 0	Experience gap rate
The whole sample	293	265	90.44%
VET graduates	196	178	90.82%
FAW-Volkswagen VET graduates	16	15	93.75%
FAW Jiefang VET graduates	180	163	90.56%
Young VET graduates	170	157	92.35%
Middle-aged VET graduates	25	21	84.00%
Old-aged VET graduates	1	0	0.00%

Then, after classified the different age range, experience gap rate for young VET graduates is 92.35 per cent, middle-aged is 84.00 per cent and old-aged is 0 (See Table 9), which is opposite to our assumption. We assume that middle-aged graduates have a more stable employment stability, because works are assigned in the early years, and companies are not allowed to fire employees freely, meanwhile, employees could not resign with freedom. With the opening up of the labour market and the enhancement of labour mobility, employment stability should be decreased. However, the result of the questionnaire is opposite. To explain that, perhaps, the labour force was distributed inadequately in the assigning system, thus in the process of state-owned enterprises reform and labour market reform, these inadequate group quit their job and choose a career again. Additionally, with the improvement of work experiences, the existing

career platform could not meet the pursuit of individual's expectation, then middle-aged people could have a higher rate of job-hopping.

*Table 10. Job consistency analysis.*

	Classification	Observations of graduates whose job consistent with learning program	Total observations	Percentage
Age range	<b>Young graduates</b>	118	170	69.41%
	<b>Middle-aged graduates</b>	11	25	44.00%
	<b>Old graduates</b>	0	1	0.00%
Gender	<b>Male graduates</b>	126	191	65.97%
	<b>Female graduates</b>	3	5	60.00%
Hukou	<b>Urban graduates</b>	57	95	60.00%
	<b>Rural graduates</b>	60	88	68.18%
Studying years	<b>Less than three years</b>	29	54	53.70%
	<b>Three years</b>	85	125	68.00%
	<b>More than three years</b>	15	17	88.24%
	<b>Total</b>	<b>129</b>	<b>196</b>	<b>65.82%</b>

Then, job suited rate will be discussed. According to the respondents in the questionnaire, there are 129 respondents whose positions are consistent with their studying programmes among 196 VET graduates with the percentage of 65.82. In the aspect of age, young graduates have the percentage of 69.41, middle-aged with 44.00 per cent, and old-aged with 0 per cent. Because there is only one old-aged graduate, this observation will be ignored in this sample. From this results, it could be seen that the job suited rate is growing from the old generation to the young generation. From the perspective of gender, male graduates have higher job suited rate (65.97 per cent) than female (60 per cent). However, the number of female observations is limited with only 5 people. Therefore, this result might be not convincing. It could be seen from Table 10 that graduates from rural areas have 8.18 per cent higher job suited rate than graduates from urban areas with 68.18 per cent and 60.00 per cent respectively. From the analysis above, rural graduates have fewer channels to find a job than urban graduates and they rely more on the recommendation of VET schools. Consequently, they are more likely to find a job related to their programmes. If look at different factories, VET graduates working for foreign-funded company (FAW-Volkswagen) have higher job suited rate than stated-owned company (FAW-Jiefang). The gap is quite obvious which is 81.25 per cent compared with 64.44 per cent. And

it is clear that graduates could have more opportunities to find a job related to their programmes with the increase of studying years in VET schools.

## 5.2 Chinese Model Comparison

VET education can provide wider employment opportunities for students, which becomes a common believe from the mid 20<sup>th</sup> century, and it can solve the unemployment problem for young people. Technical and vocational education is closely related to social economic development, which needs to be pushed forward by human capital demand in the labour market. Hence, the governments in many countries encourage the development of VET education (Liu, 2005). There are several features and problems of Chinese vocational education and training can be concluded according to part of the results from questionnaire and also integrated with the German and French model of vocational education and training.

In China vocational education and training is relatively starting behind compared to the developed countries like Germany and France. The early development of vocational education in China was in the mid 20<sup>th</sup> century, but it was impeded and broken off by the Chinese domestic struggle. The reform of vocational education and training in China was in the late 1970s and early 1980s which symbolized it stepped into a rapid development era. There were plenty of related policies published to lead the development of vocational education and training system. During the period 1980 to 1998, VET education became strengthen and scaled up. The proportion of VET school students increased from 19 per cent to 56 per cent. Many vocational schools were set up and the first vocational education law was published in 1996 (Song, 2001). Therefore, Chinese vocational education and training has been developed rapidly for over thirty years from now. However, the vocational education in France and Germany has a very long history. It can trace back to the 17<sup>th</sup> century when the French government encouraged training manufacture workers through the setting up of vocational schools. The vocational education in France was in the same position with normal education since a related law published by the French government in the 19<sup>th</sup> century (He, 2014). In Germany, vocational education is also protected by laws in 18<sup>th</sup> century. The German government took the responsibility to push the

combination of traditional apprenticeship and school education which promotes the development of the dual system in Germany (He, 2014).

Chinese technical and vocational education system is quite messy with its management organization. Rural VET schools are managed by local district education department and the urban VET schools are charged by city education department (Ji, 1995). However, educational financial expenditure in both rural and urabn areas are taken charge by several different departments. In Germany, the school training courses in the dual system are fixed and standardized by these organizations: Vocational Training Act (Berufsbildungsgesetz), German Crafts and Trades Regulation Code (Handwerksordnung) (Dettmann, & Günther, 2009). It clarifies each related affair in VET dual system is responsible for different departments.

Chinese vocational education is school-based education which part of them are taken charge of the central education ministry and part of them are responsible by local education ministries (Song, 2001). Those vocational education and training organizations seldomly cooperate with production department, the learning and training at school is the dominant direction of Chinese vocational education. Currently many Chinese VET schools cooperate with local factories and enterprises but only stay in providing graduates for enterprises which aims to improve the VET graduates' employment rate. There is no further cooperation between VET schools and enterprises in China no matter in students' training or financial support to VET education. School-based education model is similar with the traditional French education model in the past which mainly relies on school education. It is totally unlike German dual system where both state and enterprises take responsibility for VET education. In Germany, students learn theoretical knowledge at school and practice technical skills in enterprises. This training model became a classic model in vocational and technical education field and followed by many other countries. At present French vocational education has enhanced the connection with enterprises and adjusted to adopt the demand of enterprises to get over the problems in traditional education model such as the students are lacking of technical skills and practical training, which are also the problems in current Chinese vocational education. Hence, it can be said that the French model and the German model are converging in some aspects. Moreover, French government and enterprises make alliance with affording the expense of French VET education due to most

of VET graduates will be employed in the enterprises. While financial support of Chinese VET education is only relied on central and local government. Enterprises do not take responsibility for Chinese VET education.

The teachers in Chinese VET schools are mainly full-time teachers who take the responsibility for teaching basic theoretical knowledge. But in vocational schools, the main teaching content should be practical skills and professional skills, it seems to be the teachers who are full of practical experience and can control the fresh useful employment information are better to teach VET students. In France, teachers in vocational schools have both ful-time teachers and part-time teachers. The part time teachers are simultaneously employed in related professions therefore they can not only teach the theoretical knowledge but also can integrate it with practice, give students the problems that would meet in future career for practice, which is better for learning and training (Wang, 2015). The German model is famous as the dual system which both schools and enterprises take the charge for students. Training in enterprises is part of the studying curricula. The teachers at schools and the supervisors in enterprises are absolutely different and aim to train students in both theoretical and practical ways.

In China, VET graduates have relatively limited promotion space in their career life compared to undergraduates. The workers with VET education background have the lower initial salary than undergraduates and then in the following years their salary gap became bigger. They also have less promotion times and less promotion probabilities than undergraduates. Chinese VET graduates are weak in competitiveness after they enter into career life. French VET graduates have the prospective career development in long term perspective. In the beginning French VET graduates have the salaries similar with French average employment monthly income (World Salaries Website, 2001), but with they earning more working experience their salary would raise soon and reach a relatively high level (Alberta Government, 2012).

Chinese school-based education model is probably part of the problem that students cannot apply the knowledge learned at school into actual working. In the questionnaire, two questions involved in this problem. The respondents were asked in which degree of technical skills they think what they learned at school applied for their current job and in which degree of theoretical knowledge do they think what they learned at school applied for their current job, they assessed

with 1 to 5 represent the degree very low to very high. For the results, below 20 per cent respondents chose level 4 and 5, about 45 per cent respondents chose level 3 and 35 per cent of respondents chose level 1 and level 2 which means 80 per cent of respondents thought the technical skills they learned at school can apply in current job in a low degree. Even ignored the 45 per cent of respondents who chose level 3, the respondents chose level 1 and level 2 are still 15 per cent more than level 4 and level 5. In the other word, what they need in current job mostly cannot gain from the previous study. The situation in theoretical knowledge part is even more worse. To analyse this question, it could be considered that for young people who just graduated from school probably would think what they learned from school is useful for working. For elderly people they do harder work than fresh workers, they would probably feel what they learned from school is useless. However, the sample of the research is mostly young people who below 30 years old. There is ten more per cent of observations who are beyond 30 years old. Therefore, for this question most observations are in the similar age condition. There is only approximately 16 per cent of respondents chose level 4 and level 5, the rest 84 per cent respondents implicated that the theoretical knowledge learned at school cannot apply in the current job very well. And even drop out the respondents of level 3, there are nearly 70 per cent of respondents who chose level 1 and level 2. It suggests that Chinese vocational education is over relied on traditional school-based learning and has ignored the connection with the workplace. It is a kind of waste time and education resources, and impedes the training for students to become experts.

Although there are enough practical courses at school, it cannot be applied well when entering the real work. As for the proportion of practical courses in whole learning content in Chinese technical and vocational school, there is one question designed for it in the questionnaire. The respondents were asked *How much percent of practical courses (internship included) they have in their total curriculum when in technical and vocational school?* The results show that around 58 per cent of respondents thought the practical courses in their total curriculum occupied at least 50 per cent. And about 42 per cent of them kept the view that the proportion of practical courses is below 50 per cent. From this question can know that there are enough practical courses in Chinese technical and vocational schools now. However, according to the two application questions above, what they learned often cannot apply into current job which probably implies that the practical learning content at school is not closely related to the real

work. Practical learning at school is not effective for a future career, schools cannot control well the practical content, only doing the practice in enterprises can well connect the theoretical knowledge and practical working.

## 6 Conclusion

Through analysis and discussion of data source collected by the authors, the VET graduates of automobile industry stay at a relatively low social status in Chinese labour market. No matter on the aspect of salary, promotion space or the employment opportunities, they are all lower than those who graduated from university or below the average level. Both initial salary and current salary of VET graduates are higher than lower level graduates, but the salary gap is not significant different. But when compared to higher level graduates, the initial salary and current salary of VET graduates are lower, and the salary gap become bigger. From the long term perspective, the salary of technical and vocational graduates is not optimistic. The longer studying years in technical and vocational schools won't make much positive effect on salary growth. However, it is a good way for them to work in a foreign-funded company because it can earn a higher salary than other types of companies. As for promotion, the related working experience has the positive influence on promotion times in their beginning of work. But the promotion times of technical and vocational graduates are very rare compared to undergraduates. Most of VET graduates have never been promoted and think themselves have very low possibilities to be promoted in future. And their VET studying experience is less competitive on promotion than undergraduates. As for job channel, rural area people mostly rely on the school to get information to find a job which probably because students from urban areas have more channels than rural areas. Most of VET graduates think VET education experience is helpful for them when seeking a job. And many of them chose VET education in order to obtain better employment opportunities. As for job satisfaction, rural technical and vocational graduates and workers from foreign-funded companies have the higher job satisfaction. What's more, bigger scale of companies would have higher employment stability. The job suited rate is growing in the younger generation. Rural residents and workers in foreign-funded companies have the higher job suited rate than urban students and other types of companies respectively. The job suited rate is higher among who have the longest VET studying years. According to these conclusions, it is really necessary to improve the skills and capacity of technical and vocational school students and train a large amount of high skills labour force to optimize the structure of the Chinese labour market.

In order to train more highly skilled technicians and improve the social status of technical and vocational education, China has to change from now on. Chinese VET education needs to strengthen the cooperation between schools and enterprises, not only cooperate on providing graduates for enterprises but also cooperate on training students. Enterprises can offer practical learning places for students and arrange the skilled supervisor to train students. Enterprises need to take part in the design and arrangement of students' course curriculum in order to develop the students' capacity and skills which fit the demand of enterprises. China should learn from German and France, both state and enterprises should take the responsibility of training technical and vocational students.

In addition of cooperating with enterprises, China could establish some advanced vocational education schools for training senior technical and vocational elites, such as master degree of technical and vocational students, aimed to become senior engineers or technicians which are extremely lacked currently in Chinese labour market. The best situation is each level of labour force keeps balancing to satisfy the demand of the labour market. Meanwhile, Chinese vocational education could extend more types of professions for students to choose and find out the right one. Besides, VET schools could introduce the teachers who are full of practical experience and can lead students become more professional after stepping into work. And schools could also encourage the full-time teachers to combine theoretical knowledge with practical training to help students better prepare the future job and adopt the working environment sooner.

The vocational education quality cannot be improved without strong financial resource to support excellent teachers and complementary teaching equipment. Actually the cost of technical and vocational education is over expensive than the normal education due to the special experiment and training expense. Nevertheless, in China the truth is the vocational education is always a lack of investment which leads to the slow development (Wang & Zhou, 2009). Therefore, the vocational education and training should set up other financing distribution to absorb capital and support the development. Investment from the state should not be the only way to rely on for vocational education schools.

The Chinese government could pay more attention to rural VET education development. Rural young people need more employment opportunities. And the information channels in rural areas should be broadened. The rural people cannot only rely on VET schools to introduce jobs for them. Seeking jobs through other channels may improve the employment rate and allocate the human capital in a better way.

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# Appendix A

## Questionnaire

Dear friends,

We are the master students in International Economics with a focus on China Programme at Lund University in Sweden. We are writing our master thesis and we would like to do a quantitative survey about your educational background and your current career condition. Circle your option of the answers. We will be appreciated if you spend 5-10 minutes to complete this questionnaire. All information is used for research analysis purposes only and all information is kept confidential. Thank you for your cooperation!

1. What is your gender?

- A Male
- B Female

2. Which year were you born? \_\_\_\_\_

3. Which kind of Hukou do you have?

- A Urban
- B Rural
- C Don't know

4. What is your highest education level before work?

- A Below Elementary Education
- B Elementary Education
- C Junior Middle School Education
- D Senior Middle School Education
- E Middle level Technical and Vocational Education
- F Upper level Technical and Vocational Education
- G College or above

5. What is your mother's highest education level?

- A Below Elementary Education
- B Elementary Education
- C Junior Middle School Education
- D Senior Middle School Education
- E Middle level Technical and Vocational Education
- F Upper level Technical and Vocational Education
- G College or above

6. What is your father's highest education level?

- A Below Elementary Education
- B Elementary Education
- C Junior Middle School Education
- D Senior Middle School Education
- E Middle level Technical and Vocational Education
- F Upper level Technical and Vocational Education
- G College or above

7. Did you have studying experience in adult education?

- A Yes (turn to No.8)
- B No (turn to No.9)

8. Which education level did you get through adult education? \_\_\_\_\_

9. How did you get the present job?

- A Assigned by government
- B Recommended by school
- C Obtained through an employment agency (internet/newspaper/recruitment fair/others)
- D Introduced by your relatives or friends
- E Inherited it
- F Others, \_\_\_\_\_

10. How many years of general working experience do you have? \_\_\_\_\_

11. How many years you have been working in this company? \_\_\_\_\_

12. How many years of working experience in related field do you have? \_\_\_\_\_

13. How much is your monthly salary currently?

- A Below 2500 Yuan
- B 2501-4000 Yuan
- C 4001-5500 Yuan
- D 5501-7000 Yuan
- E 7001-8500 Yuan
- F 8501-10000 Yuan
- G Above 10000 Yuan

14. How much is your initial monthly salary?

- A Below 2500 Yuan
- B 2501-4000 Yuan
- C 4001-5500 Yuan
- D 5501-7000 Yuan
- E 7001-8500 Yuan
- F 8501-10000 Yuan
- G Above 10000 Yuan

15. How many times you have been promoted in your career life? \_\_\_\_\_

16. How do you like your current job?

(1-5 ranges from highly unsatisfactory to highly satisfactory)

- A 1
- B 2
- C 3
- D 4
- E 5

17. How do you think your probabilities for promotion?

(1-5 ranges from very low to very high)

- A 1
- B 2
- C 3
- D 4
- E 5

18. Did you have studying experience in technical and vocational school?

- A Yes (turn to No.20)
- B No (turn to No.19)

19. Why not choose technical and vocational school?

- A My parents recommended me not to go there.
- B My teachers recommended me not to go there.
- C I don't have any friends or relatives study there.
- D I think working experience is more important than studying technical and vocational school.
- E I don't think it is useful for my future career.
- F I cannot afford the tuition fee.
- G I don't want to leave my parents.
- H I want to find a job as soon as possible.
- I Others. \_\_\_\_\_

**Thanks for your participation!**

20. Why did you choose technical and vocational school?

- A My parents recommended me to go there.
- B My teachers recommended me to go there.
- C My friends or other relatives were going (or went) there.
- D I wanted to earn a better income with a technical and vocational school degree.
- E I like to learn skills.
- F I wanted to gain my independence.
- G I did not want to work immediately after high school.
- H Others. \_\_\_\_\_

21. How many years have you been studying in technical and vocational school?

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22. Which programme did you study in technical and vocational school?

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23. Did you drop out or graduate from the technical and vocational school?

- A Dropped out (turn to No. 24)
- B Graduated (turn to No. 25)

24. If you did not graduate, what is the reason for that?

- A I have the financing problem and could not afford the tuition fee.
- B I think studying experience in this school could not gain enough practical skills for the future job.
- C I have found a job during the study period, then I suspended.
- D I returned to high school, and prepared for the university entrance exam.
- E Others. \_\_\_\_\_

25. How much percent of practical courses (internship included) do you have in your total curriculum when in technical and vocational school?

- A 0%
- B 25%
- C 50%
- D 75% and above

26. Is your current job consistent with your studying programme?

- A Yes
- B No

27. Is your technical and vocational education experience helpful for you to find a job?

- A Yes
- B No

28. In which degree of technical skills do you think what you learned at school applied for your current job?

(1-5 ranges from very low to very high)

- A 1
- B 2
- C 3
- D 4
- E 5

29. In which degree of theoretical knowledge do you think what you learned at school applied for your current job?

(1-5 ranges from very low to very high)

- A 1
- B 2
- C 3
- D 4
- E 5

30. In which degree of social capacity do you think what you learned at school applied for your current job?

(1-5 ranges from very low to very high)

- A 1
- B 2
- C 3
- D 4
- E 5

31. Which curriculum do you think should be increased in technical and vocational school currently?

- A Technical skills
- B Theoretical knowledge
- C social capacity
- D Others \_\_\_\_\_

**Thanks for your participation!**