

Analysing the Income Difference Between German and Chinese Vocational School Graduates

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Abstract: With the Chinese government attaching more and more importance to vocational education, it is necessary to analyze how to develop vocational education in China. This paper mainly analyzes the difference of vocational education between China and Germany, and the income gap of graduates and the corresponding reasons. Through the analysis of the vocational education system, income, policies and influencing factors of the two countries, it can be found that the social status and income of vocational education graduates in China and Germany are different. It can be inferred that this phenomenon is caused by the fact that the relevant laws and policies of vocational education in China are not as perfect as those in Germany. In this way, it is crucial to understand the shortcomings of China's vocational education system and further analyze the income difference between Chinese and German vocational graduates. China can learn from Germany, such as the dual system and the cooperation between enterprises and institutions in vocational and technical education, in order to reduce the income imbalance caused by educational differences.

Keywords: vocational education, income inequality, education system

1. Introduction

With the continuous adjustment of the global economic structure, the income inequality of vocational college graduates in various countries start to attract attention. Vocational education is an important way to cultivate high-quality skilled personnel. In China, a manufacturing country, though the scale of vocational colleges is growing, there is a gap between their income and social status and that of the college graduates. In contrast, the income and status of vocational college graduates in Germany are different from those in China. Germany's unique dual system model has cultivated a large number of talents for the German manufacturing industry and supported the continuous development of the German economy. The income of German vocational education graduates is relatively stable, and the social status of vocational education graduates is higher than that of other countries. The reasons behind the difference lie in two countries' different historical and cultural backgrounds, educational system design, industrial structure, labor market operation mechanism and other factors. The in-depth study of the high income of German vocational education graduates will have an important reference value to solve the problem of income inequality and low status of vocational college graduates in China.

Chinese scholars have done a lot of research on the income of graduates from Chinese vocational colleges. Most of them analyze the regional differences, different distribution of educational resources, unreasonable industrial structure and occupational factors. Studies have shown that the

income of graduates in developed eastern regions is generally higher than that in central and western regions [1]. Foreign studies on German vocational education mostly focus on the successful impact of its dual system in the operation of German vocational education. It also emphasizes the key role of corporate training in raising graduate earnings. However, there are relatively few systematic comparative studies on the income and social status inequality of Chinese and German graduates of vocational colleges. Therefore, an in-depth study of the income difference between Chinese and German vocational education graduates and its root causes is of great significance for solving the income inequality and the relatively low status of Chinese vocational and technical college graduates, improving China's vocational education system, and promoting the sustainable development of China's economy.

2. Vocational education in China

2.1. Overview of vocational education system

China's vocational education system mainly includes secondary vocational education and higher vocational education. As an important part of China's education system, vocational education takes up an increasingly large proportion in the education system. According to the 2023 Annual Report on the Quality of Vocational Education in China, there were 389,800 higher vocational students enrolled in China in 2022, and 3,392,700 vocational graduates in 2022. According to the Figure 1 below, there were 11,133 vocational schools and 1,547 higher vocational schools in 2023. In 2023, the number of students in vocational schools is 34.7828 million, and the number of graduates is 19.04 million. Secondary vocational education students and higher vocational students accounted for about 40% of the total number of senior high school education and higher education students, respectively. The main bodies of China's vocational education system are the government, enterprises and social forces. These three bodies have enriched the resources and forms of vocational education. Vocational education is mainly employment-oriented. Its major setting is mainly to meet the needs of the industry, with a clear training objectives and curriculum system. If there are students who want to continue with their education, they can also meet their needs for further development through higher education channels.

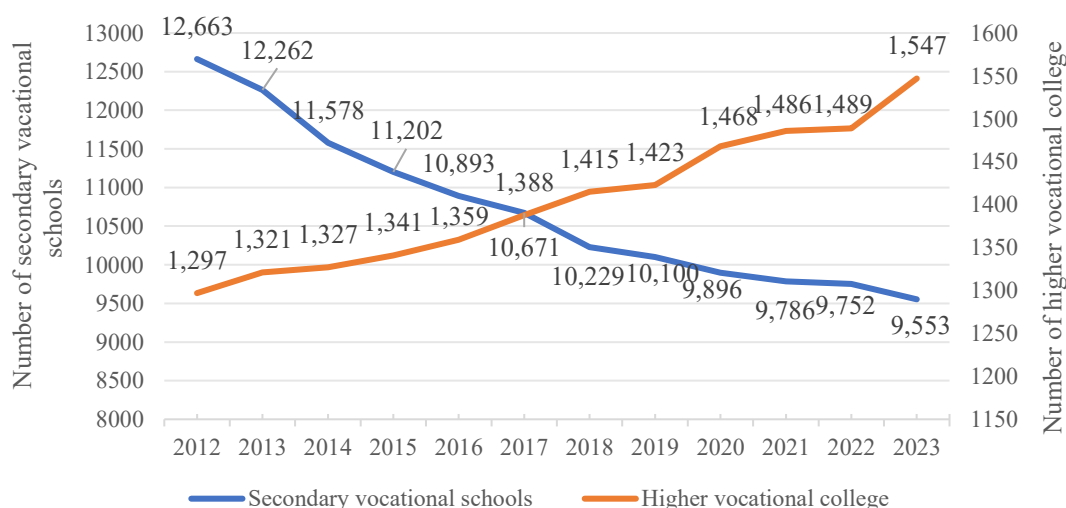


Figure 1: Number of vocational institutions (data from: China's vocational education development report)

The proportion of secondary vocational schools and higher vocational schools is constantly increasing, and the number of talents sent to related professions is increasing year by year.

2.2. Income

According to the Development of China's Vocational Education Development Report, the average starting salary of higher vocational school graduates in 2023 reached 4,082.2 yuan. Although there is still a gap from the average starting salary of higher education graduates of 6,050 yuan, compared with the average starting salary of higher vocational graduates in 2021, there has been a significant increase. The earnings of vocational school graduates vary by region and major. Among them, the income of graduates of higher vocational schools in Eastern China is higher than that of graduates in Western China. The average monthly income of graduates from China's top 100 higher vocational colleges is more than 5,300 yuan, and the average monthly income of graduates from the best college even reaches 10,927 yuan.

2.3. Related policy

To reduce the income gap between vocational and university graduates, the Chinese government has been issuing relevant policies and decrees. The number of policies related to vocational education is on the rise, and the coverage of policies and the forms of promoting common prosperity are gradually diversified [2]. The Chinese government's 2024 policies related to vocational education include strengthening the team of teachers to promote the optimal allocation of teacher resources. The government also advocates promoting the integration of industry and education and building a personnel training system with enterprises as the main body and vocational schools as the foundation [3]. By gaining vocational skills and professional qualifications, they can cultivate one or more crafts that can make a living. The number of vocational education policies to promote common prosperity issued by the Chinese government in recent years has greatly increased, and 14 related policies have even been released in 2021.

2.4. Determinants of income inequality

There are many factors affecting the income inequality between graduates of general education and those of vocational education in China. First of all, although the government has issued a large number of policies related to vocational education, the Chinese people's prejudice against vocational education is difficult to eliminate. This perception makes it difficult for vocational education graduates to get high-paying jobs because of their academic background, and they face some unfair treatment. Secondly, according to the National Vocational Education College Teaching Situation Survey Report, 54.2% of secondary vocational teachers had not engaged in teaching related careers before entering the profession. Teachers' quality of vocational education is weak and extremely unstable. Some teachers' lesson preparation content has not even been updated for a long time, and there is a situation that it may be out of line with the current level of education required. This has a huge gap with the teachers in general education. General education is rich in academic resources, which can enable students to learn more knowledge and enter higher-paying positions. Thirdly, because vocational education is aimed at cultivating technical talents, the employment positions are relatively limited to the manufacturing industry, service industry and other fields. Such jobs have low added value and are easily replaced by others. While general education focuses on comprehensive literacy, graduates have a wide range of employment, and can be engaged in some human-capital-intensive industries. The difference in educational content also contributes to the income gap between vocational and general education graduates.

3. Vocational education in Germany

3.1. Overview of the German vocational education system

In Germany, vocational education plays an extremely important role. According to the Vocational Education Indicators Report 2024 released by the German federal government, the number of new students in German youth vocational education has increased in 2023, reaching 925,000. The number of new students entering the dual vocational education system rose to 456,000. The number of new vocational training contracts signed rose 3 percent year-on-year to 489,200. In recent years, about 70 % of German high school students are receiving secondary vocational education, and secondary vocational education is still the main body of German high school education. With the diversified international development of German vocational education, its role in the German education system cannot be ignored.

The German vocational education system adopts the “dual system” model, in which students spend part of their time in enterprises for practical training and the other part of their time in vocational schools for theoretical learning. The two parties of school and enterprise jointly complete the goal and task of talent training, so that students have practical experience and theoretical knowledge at the same time, highlighting the efficiency and scientific properties [4]. The dual-system vocational education structure provides an important guarantee for the delivery of high-quality workers and the maintenance of high-level education quality, and also makes the development of German vocational education always in the forefront of the world. However, with the external influence of the international situation and other issues, the German dual vocational education is now facing many uncertainties. The shortage of skilled labor and the mismatch of supply and demand have affected the development of German vocational education [5]. However, the German federal government has developed many excellent strategies to promote the new development of German vocational education.

3.2. Income

In 2023, the average salary of all vocational education graduates with permanent positions in Germany was about 3,500 euros per month. The median monthly salary of vocational education graduates aged 20 to 39 who are engaged in technical research and development can even reach to 5,700 euros. According to the German Institute for Economic Research, vocational education trainees in the dairy technology have the highest net income of 1,307 euros per month in 2023. The second highest is carpenter, who earned 1,264 euros per month. It can be found that the earnings of vocational education in Germany is very high. With the accumulation of work experience, income will steadily increase.

3.3. Related policy

In terms of policy, the German government gives strong support to vocational education. Through legislation to protect the status of vocational education and its development, such as through the form of law to require enterprises to participate in the combination of industry and education. In 1981, the German government promulgated the “Vocational Education Promotion Law,” which was based on tax incentives for enterprises actively participating in vocational education. In general, enterprises that participate in vocational education can receive 50% to 80% of their training expenses [6]. In addition, the German government has also issued policies such as the digital transformation of vocational education to promote the comprehensive development of vocational education. Over time, professional workers need to improve their skills to meet the employment needs of enterprises. Relevant policies for the digital transformation of vocational education provide workers with a way

to learn fresh knowledge. The release of relevant policies means that the government is also aware of the development of vocational education. The government has continuously brought fresh strength to the development of German vocational education by developing ways to update the digital trend of curriculum and improve the professional ability of teachers [7].

3.4. Determinants of income inequality

Industry difference is an important factor affecting the income inequality of vocational education, and the income of popular industries, such as machinery manufacturing, is generally higher than that of traditional service industries. At the same time, the difference of economic development in different regions also has an impact on the income difference of graduates. The income of vocational education graduates in developed areas, such as Munich, is significantly higher than that in less developed areas. The difference between German vocational colleges and universities is also one of the factors affecting income. Courses in vocational schools are often related to specific occupations, and the majors in vocational colleges generally cover only three specialized areas of technology, economics, and social studies [8]. If the employment demand in the field is relatively saturated, it may be difficult for some vocational school graduates to find suitable careers. However, on the whole, German vocational education is in a relatively complete policy support, although there is income inequality, the overall system is good, and it is one of the important supports for the developed German manufacturing industry.

4. Comparative studies

4.1. Education history

The cultural traditions of China and Germany have influenced the development of their vocational education to some extent. Germany's traditional emphasis on practice and training has contributed to the recognition of vocational education in Germany. Since ancient times, China has paid more attention to academic education, so vocational education is difficult to get attention in China. In the early Middle Ages, Germany began to teach skills in the form of teachers and apprentices, and after the 17th century, there were schools focused on theoretical knowledge. In the 18th century, various specialized schools began to appear in Germany, and a unified national standard for school construction was formulated around 1850 [9]. Chinese skill inheritance is mostly realized in actual work. It was not until around the late Qing Dynasty that the Westernizers established the first school with professional significance under the influence of Western countries.

Also, the difference in economic development between the two countries is another factor affecting the development of vocational education. Germany began to attach importance to industrial development around the end of the 19th century. Double apprenticeships sponsored by companies are highly attractive to graduates, and companies can also select the right workforce from the vocational education process. The cooperation between the schools and the enterprises has greatly promoted the development of vocational education in Germany [10]. Unlike Germany, China suffered social unrest and economic depression in the late 19th century. The country pays more attention to safeguarding national security, so it is difficult for China's vocational education to further develop.

4.2. Policy

The difference in the development of vocational education between China and Germany largely depends on their respective legal protection. Germany has a mature and complete legal system, which has detailed regulations on various contents of vocational education. Moreover, Germany has a clear division of labor for the roles of different parties in vocational education, with the state responsible

for the formulation of vocational education policies, the state education committee implementing the curriculum, and enterprises and schools developing the content. These mature legal guarantees have brought great benefits to the development of vocational education in Germany, which has kept the youth unemployment rate in Germany well below the average of the European Union's [11]. China's vocational education started relatively late, and there was a lack of standardized laws and regulations in the early stage. Moreover, the barriers between vocational education and general education in China have not been completely eliminated, and the social status of vocational education is still at the lower level. The imperfection of vocational education policy will also make the development speed of China's vocational education relatively slow.

4.3. Recommendations

Based on the above differences between Chinese and German vocational education, China can learn from Germany and improve its own vocational education system. First, China should improve the laws related to vocational education, and clarify the role of different parties in the development of vocational education, so as to achieve a multi-party vocational education system. Second, the Chinese government should encourage the integration of industry and education. By learning from the experience of "dual system" in various countries, vocational schools and enterprises can be deeply integrated. In this way, vocational schools can better adjust their majors according to the needs of enterprises, and enterprises can find the talents they need from vocational schools faster. Moreover, enterprises can also take advantage of their own human resources to solve the problem of low professional skills of vocational education teachers, or use production facilities to improve the quality of vocational education [12]. Third, in the process of perfecting China's vocational education system, improving the social status of vocational education cannot be ignored. The government should take the initiative to guide the society to change its view on vocational education and improve the labor security system for workers. The government should let the public understand the benefits of stable wages and high employment rate brought by vocational education, so as to truly enhance the status of vocational education in the eyes of the public.

5. Conclusion

Based on the Chinese government's emphasis on vocational education, it has become an important issue to analyze and discuss how vocational education develops. As a representative of high-quality vocational education in the world, Germany can bring new ideas for the development of vocational education in China by analyzing the reasons for the difference between the two countries' vocational education. There is an income gap between Chinese and German vocational school graduates, so that the government can re-evaluate on how to improve the income of vocational education graduates. By analyzing the respective vocational education systems, income, policies and factors affecting income in China and Germany, this paper finds that the differences in educational history and policies affect the status of vocational education, while the lower status of vocational education affects the income of its graduates. Finally, this paper proposes to improve the legal protection of education, deepen the integration of industrial production and education, and improve the social status of vocational education in China, so as to provide a new perspective for the development of vocational education.

Since there are limited research on the comparative analysis of vocational education income between China and Germany, this paper provides qualitative analysis from this perspective. Based on the Chinese government's emphasis on vocational education, the value of this research direction may continue to increase in the future. Future research could focus on a specific problem of vocational education, for example, the impact of the development of science and technology on vocational education, and how countries should respond to it.

References

- [1] Zhang, R. (2022) *An Empirical Study on the Coordination Between Higher Vocational Education and Regional Economy*. *Economic Research Guide*, (28), 56-59+77.
- [2] Zou, X., Chen, C. and Ma, F. (2025) *Vocational Education to Promote Common Prosperity Policy: Evolution Context, Actual Problems and Future Outlook*. *Chinese Vocational and Technical Education*, (03), 56-67+74.
- [3] Xu, L. (2024). *Deepen the reform of the construction of the industrial worker team with greater efforts and more practical measures*. *A View of Labour Unions*, (36), 4-6.
- [4] Che, J., Zeng, X. and Wang, X. (2024) *Study and reference of German dual vocational education model for serving economic transformation and upgrading*. *Journal of Jinan Vocational College*, (05), 8-14.
- [5] Yang, Y., Zou, S. and Shuai, Y. (2024) *Research on the Challenges and Strategic Initiatives of the German Dual Vocational Education System: Analysis Based on Bildung in Deutschland 2024 and Berufsbildungsbericht 2024*. *Vocational education forum*, 40(12), 120-128.
- [6] Song, T. (2018) *Research on Enterprise and Industry Participation in the integration of industry and education – Based on comparison of Germany, Australia and Canada*. *Journal of Wuhan Engineering Institute*, 30(04), 49-52.
- [7] Liu, Y. (2024) *Research on the Digital Transformation Policy of German Vocational Education from the Perspective of Multiple Streams Theory*. *Vocational education research*, (12), 79-84.
- [8] E, T. (2024) *Study on the Functional Positioning and Development Path of Vocational Education at the Undergraduate Level -- Differences Analysis Between German Universities of Applied Sciences and Vocational Colleges*. *Journal of Tianjin Sino-German University of Applied Technology*, (03), 4-9.
- [9] Ding, Z. (2014) *The comparison of the course of vocational education between China and Germany and the development countermeasures of vocational education in China*. *Journal of Heilongjiang Vocational Institute of Ecological Engineering*, 27(02), 48-50.
- [10] Marita, J. and Heike, S. (2015) *Germany's Vocational Education and Training System in Transformation: Changes in the Participation of Low- and High-Achieving Youth Over Time*. *European Sociological Review*, Volume 31, Issue 2, 161-171.
- [11] Wang, M., Wang, X. and Yuan, L. (2024) *Analysis of German vocational education policy framework and enlightenment to our country*. *Education and career*, (17), 83-90.
- [12] Han, X. and Zhang, Y. (2020) *The Enlightenment of German "Dual System" to China's Vocational Education Reform*. *Journal of Contemporary Educational Research*, (12), 60-63.