

Studying or Working: A Study on the Mechanism of Higher Education Regulating Social Employment——Analysis based on data from OECD

Wenxiao Liu¹, Qun Chen², Xiaohan Zhang³

¹College of Education Science of Jiangsu Normal University, Xuzhou, 221116, China

²Shanghai Audio-visual Education Center, Shanghai, China

³School of Educational Science, Jiangsu Normal University, Xuzhou 221116, China

Keywords: Higher Education; Enrollment Rate; Social Employment; Labour Market; Professional Adjustment

Abstract: In the context of a serious epidemic situation, the imbalance between the development of higher education and labor market will become one of the main factors affecting the development of higher education in China. To clarify the interrelationship between higher education and the labour market, the study through an analysis of the trends in GDP growth rates, unemployment rates and university enrolment rates in the six OECD countries from 1980 to 2020, found that there is a "counter-economic cycle" of education, that is, during the downturn in social employment, higher education enrolment increased significantly, whereas was flat or decreased. Therefore, we can consider giving play to the role of "reservoir" in higher education by means of moderate expansion of graduate enrollment scale and adjustment of enrollment specialty, taking social employment as a signal. Establish the transmission mechanism between higher education and social employment.

1. Introduction

In the short term, strong shocks will be brought to economic development and employment due to millions of college graduates' entry into the job market one after another every year resulting from the enrolment expansion coupled with the impact of major public health emergencies. According to the annual main economic data of China, the National Bureau of Statistics, the GDP of 2020 was 1, 01598.6 billion yuan, an increase of 2.3% over the previous year [1], which is far lower than the growth rate in previous years and will lead to a sharp drop in the labor market demand, thus making it more difficult for college students to find jobs [2]. In fact, not only China's economy, but also the global economy in 2020 has been hit hard, which has been predicted by some scholars to be the worst economic recession since World War II [3]. At the same time, the International Labor Organization, headquartered in Geneva, Switzerland, released the report World Employment and Social Outlook: Trends in 2021, which emphasized that the residual risks of global public health emergencies on the global labor market aggravated the inequality in geography and population, which made the global poverty problem prominent and decent jobs reduced. According to the assessment of the International Labor Organization, the employment growth will not be enough to make up for the loss, and the global labor market crisis will continue until 2023 [4]. In the coming period, the development of higher education in our country will face huge employment pressure, and the imbalance between the development of higher education and the employment market will become one of the main factors affecting the development of higher education in our country.

A general survey of the relationship between higher education and employment in the current academic circle shows that higher education can not only solve the problem of social employment but also become a troublemaker, bringing great difficulties to social employment, because millions of college graduates become new urban workers every year that test the absorption capacity of our labor market. In addition, college graduates who have been employed but only wander in the secondary labor market are becoming a huge group and a social topic.

E•F• Schumacher, an economist, once put forward a very important question of developing education, that is, how can higher education develop to most effectively promote economic

development rather than become a burden of economic development, , which gives people many inspirations to reflect on the development of higher education. Facing the severe employment situation and people's worries about higher education products, can higher education itself make a difference? What is the relationship between higher education and the overall situation of the labor market in reality? How should the internal mechanism of the two-way transmission of "higher education to alleviate the plight of social employment, social employment to promote the transformation and development of higher education and comprehensively enhance the competitiveness" work? Clarifying these issues can not only enrich the relevant theories of educational economics and provide theoretical ideas for establishing a benign interaction mechanism between the development of higher education and the labor market, but also provide policy choices for the current use of higher education to regulate social employment and policy basis for planning the sustainable development of higher education in the future.

2. Analysis on the relationship between the labor market and the change of university enrollment rate——based on the data of six OECD countries

Education and training will always be the core means for a country to improve productivity and enhance people's access to high-quality employment, because the education level and skill level of the labor force have a significant impact on both individuals and countries. Therefore, effective policy formulation should rely on an understanding of the linkages between education trends and labour market trends and how these trends affect individuals and countries [5].

Generally speaking, a higher level of education is often associated with the success of the labor market, and the research on the important relationship between education and the labor market often focuses on developed countries. In the study, Australia, France, Italy, South Korea, the United Kingdom and the United States, which are the OECD member countries with outstanding economic development and higher education development, are selected as the research objects to explore the relationship between the labor market of the above six countries and the university enrollment rate from 1980 to 2020, in order to find a certain correlation.

2.1 GDP growth rate and unemployment rate: key indicators of the labor market

The so-called labor market refers to a market that allocates workers to different jobs and coordinates employment decisions, in which the unemployment rate is probably the most widely known and one of the indicators that can most widely reflect and collect labor force information. As an important signal of the labor market, the unemployment rate significantly affects people's employment-oriented investment behavior in higher education and is also closely related to the economic development of the same country or region. According to Okun's Law [6], the rise of the unemployment rate will be accompanied by the decline of the real GDP, while the rise of the real GDP will lead to the decline of the unemployment rate, that is to say, the growth of GDP can also indirectly explain the labor market situation in a country or region.

Based on this, this study intends to focus on a longer historical period, and transform the discussion on the relationship between labor market conditions and university enrollment rate into the discussion on the relationship between GDP growth rate, unemployment rate and university enrollment rate.

2.1.1 Changes of GDP growth rate in six OECD countries from 1980 to 2020

As shown in Figure 1, the GDP growth of six OECD countries showed ups and downs from 1980 to 2020. On the one hand, the GDP growth rate of the same country varies in different years; on the other hand, the GDP growth rate of different countries varies in the same year, and even some countries have positive GDP growth in that year, while others have negative GDP growth in that year. Although the changes of GDP growth rate of the six countries are different, it can still be found that the GDP growth rate of each country shows a common change track during a specific period of time from the vertical perspective. From 1987 to 1991, the GDP growth rates of the six OECD countries all showed a downward trend, once approaching or reaching a negative growth

rate, which coincided with the rapid downward trend of Korea's GDP growth rate in 1990 from 1996 to 1998, once reaching a negative growth rate of 2% and 6.9% respectively. From 2008 to 2009, affected by the US financial crisis, the GDP growth rate of OECD countries all dropped rapidly, and the GDP of most countries all showed negative growth, especially the United States, Britain.

During these three time periods, the GDP of all countries generally showed a negative growth trend (only South Korea's GDP showed a negative growth during the Asian financial crisis), while the economic development of all countries generally showed a positive growth trend outside these three time periods, with different growth rates but always increased compared with the previous year. In other words, the economic development of the six OECD countries was the worst from 1991 to 1992 and from 2008 to 2009, while that of South Korea included the period from 1998 to 1999.

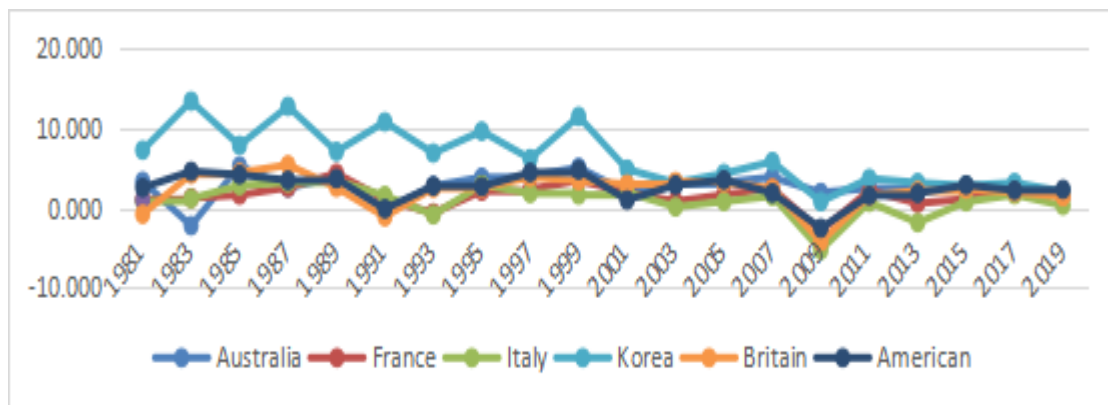


Figure 1 Changes of GDP growth rate in six OECD countries from 1980 to 2020 [7]

2.1.2 Changes of unemployment rate in six OECD countries from 1980 to 2020

As shown in Figure 2, the unemployment rates of the six OECD countries also fluctuated from 1980 to 2018, that is, the unemployment rates of each country experienced different stages of ups and downs. Although the unemployment rate varies from year to year across countries, the observation in Figure 2 still reveals the same pattern of changes in unemployment rates across countries.

First of all, Affected by the economic stagflation in the late 1970s and early 1980s, the unemployment rate in all countries was relatively high in 1980, and then it began to decline year by year until 1990, when the unemployment rate in all countries generally reached a relatively low point, namely the trough point, and then began to rise rapidly from 1990 to reach a relatively high point, namely the peak point, in 1992. Then, it generally began to decline year by year until it reached a relatively low point (trough point) again in 2008, and then began to rise rapidly until 2010, when there was a turning point and adjustment, and after 2010, it began to show a slow decline or rise. That is to say, for most countries, there are two troughs, a peak and an adjustment point in the change of unemployment rate from 1980 to 2012. The first trough appeared in 1990, the second trough appeared in 2008, the peak appeared in 1992 and the adjustment point appeared in 2010. Out of this changing pattern of the overall unemployment rate, the most special one is South Korea, where the unemployment rate hit a huge peak in 1998 due to the Asian financial crisis.

Generally speaking, the change of unemployment rate in various countries reflects the change of national economy. The time period and changing trend of the unemployment rate just coincide with the above changes of GDP growth rate.

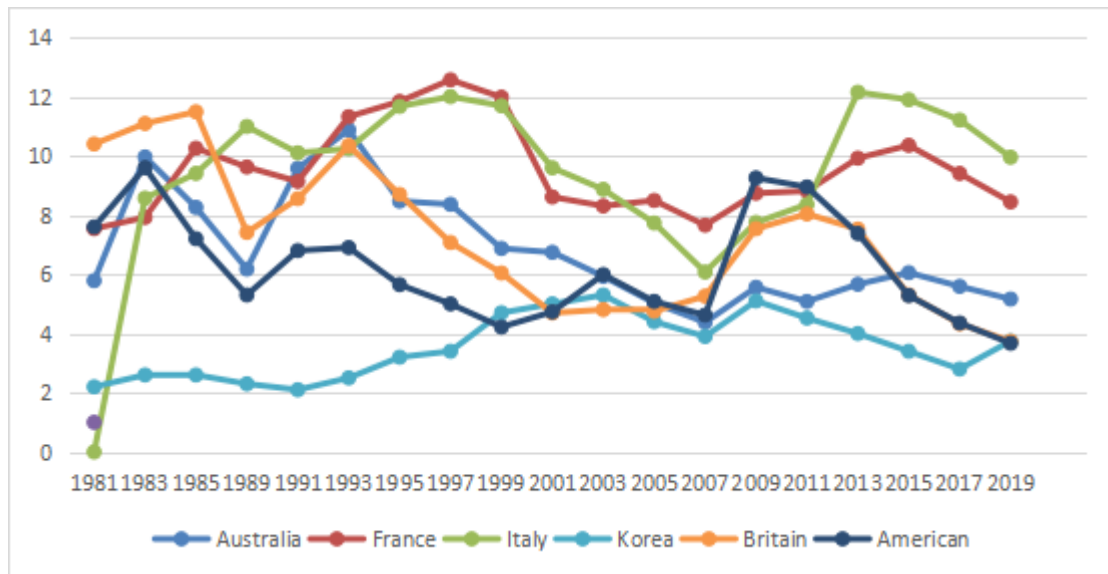


Figure 2 Changes of unemployment rate in six OECD countries from 1980 to 2020 [8]

2.1.3 Changes of university enrollment rate in six OECD countries from 1980 to 2020

In this study, the university enrollment rate is used to reflect the change of university enrollment in various countries. There are two methods to calculate the college enrollment rate: gross enrollment rate and net enrollment rate, with the difference being whether the age of the students is considered when calculating the enrollment rate. The age of students is not considered when calculating the gross enrollment rate, but the age of students needs to be considered when calculating the net enrollment rate. Only the number of students in the same age group (18 -22 years old) as the denominator is calculated, and students younger than 18 years old or older than 22 years old are not included in the calculation. In today's society, where the concept of lifelong education is getting more and more popular, higher education has already broken through the age limit. In order to more accurately reflect the relationship between economic development and the change of university enrollment, the university enrollment rate in this paper is the gross enrollment rate, and all the data are from the World Bank official website.

As shown in Figure 3, the change of university enrollment rate in various countries is on the rise as a whole, especially since 2011, the university enrollment rate in various countries has reached more than 50%, marking the stage of popularization of higher education development, among which the university enrollment rate in the United States, South Korea and Australia has reached more than 70%. However, from 1980 to 2011, the enrollment rate of universities in various countries increased from the lowest point in 1980 to the highest point in 2011, which was not a linear process. During this period, the growth rate was slow and fast, and even there was a short-term decline in the middle. Figure 3 also shows that from 1980 to 1991, the university enrollment rate in various countries maintained a slow and steady growth, with an average annual growth rate of less than 1%. However, from 1991 to 1994, it began to rise rapidly. During this period, the university enrollment rate in some countries even increased by 10% within one year. After 1994, the university enrollment rate in most countries began to grow steadily again, and that in some countries even experienced a short period of decline before slowly recovering. This period of steady growth lasted until 2008. After 2008, higher education in all countries began to show a rapid rising trend.

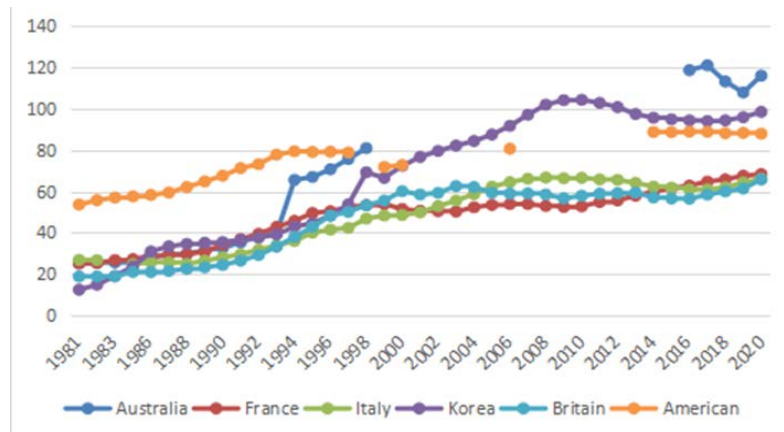


Figure 3 Changes of university enrollment rate in six OECD countries from 1980 to 2020 [9]

2.2 Analysis on the relationship between the labor market situation and the change of university enrollment rate in six OECD countries^①

The analysis of the change trend of GDP growth rate, unemployment rate and university enrollment rate of the six OECD countries from 1980 to 2018 reveals that: (i) The GDP of six OECD countries was in a negative growth state from 1991 to 1992 and from 2008 to 2009, with the growth rate less than 0. However, the GDP growth rate of South Korea was also in a negative growth state from 1998 to 1999, with the growth rate less than 0. In the rest of the time, the GDP of all countries is growing, with the growth rate higher than 0. However, the change of unemployment rate in various countries just coincides with the change trend of GDP growth rate, and keeps the fluctuation trend opposite to GDP growth rate in corresponding years. (ii) In terms of changes in university enrollment rates, the university enrollment rates of all countries experienced rapid growth from 1991 to 1994 and after 2008, while South Korea experienced a period of rapid growth around 1998. During the rest of the period, the university enrollment rate of all countries maintained a small and steady growth level, with occasional fluctuation in the lower range during the interval.

Based on the above analysis, the GDP growth rates, unemployment rates and university enrollment rates of the six OECD countries have shown corresponding or consistent change trends in the same year. On the one hand, the unemployment rate in various countries changes with the change of GDP growth rate, especially when the GDP growth rate is low, the unemployment rate rises sharply. On the other hand, the "market factors" of the labor force in the six OECD countries, which are measured by GDP and unemployment rate, have become an important factor affecting the enrollment and enrollment rate of higher education, especially in the period of declining economic development and high unemployment rate, when the economic development is stable and the employment situation is good, the number of college students will increase rapidly, and it will keep steady growth or occasionally decline.

In fact, evidence can also be found in the existing research literature on the relationship between the labor market situation with unemployment rate and GDP growth rate as the main indicators and the demand for higher education with university enrollment rate as the main indicator. Previous studies have shown that when examining the influencing factors of individual demand for higher education, students' individual characteristics, family and social factors, school characteristics, national policies, education costs and benefits are generally considered to be the main factors affecting the demand for higher education in both developed and developing countries. "Labor market factor" is a variable seldom mentioned in domestic studies but highly valued in other countries, especially in Britain, Spain and the Netherlands, where the rise and fall of the employment market caused by economic cycle fluctuations often becomes an important aspect restricting individual demand for higher education in the country [10].

3. Exploration on the two-way benign conduction mechanism between higher education and labor market: how can higher education regulate social employment

Clearly, the "counter-economic cycle of education" put forward by German scholar Paul Waldorf has been proved by conclusive evidence in the real world that since such a trend of adjusting decision-making according to the signals of the labor market has spontaneously formed among ordinary people, it will undoubtedly provide a good idea for balancing the relationship between the scale of higher education and social employment by adapting to this social psychology and using policy means to guide and strengthen this reverse adjustment. To put it simply, it is to take higher education as a "reservoir" to regulate the social employment function and achieve a win-win situation.

3.1 The premise of realizing two-way regulation

The so-called "social employment" refers to the activities in which social members engage in all kinds of labor to obtain legal labor remuneration or income, which is related to the basic conditions and requirements of human survival when human society develops to the stage of socialized mass production, not only has economic significance-workers can obtain labor income while providing goods and services to society, but also has social significance-so that workers can become participants in social and economic activities and gain social recognition and self-esteem. It is thus clear that the core subject of "social employment" is workers, including the employed who have entered the labor market and potential workers who will enter the job market in the future. The term "regulating social employment by higher education" in the study mainly refers to regulating the number, structure and quality of workers through higher education. Since "social employment" is a macro concept, different from individual employment, it is easy to understand that the prerequisite for higher education to regulate social employment is that higher education enters the stage of popularization from the traditional elite education stage, which can cultivate and provide a large number of potential laborers for social development and is sufficient to change the size and structure of the labor market.

In the traditional sense, elite education provides learning opportunities for 15% or less of school-age youth, with extremely limited enrollment, and receiving higher education is generally considered as the privilege of people with good birth or high talent or both, mainly for shaping the mind and personality of the ruling class, and preparing students for the elite role in government and academic majors [11]. When this proportion is increased from 15% to 50% of the school-age population, it is regarded as the stage of popularization. At this time, receiving higher education has become the right of those who have certain qualifications, with the purpose of turning simple labor force and general labor force into complex and specialized labor force through education, processing and training to meet the needs of modern economic society for specialized talents.

3.2 The implementation of two-way regulation

3.2.1 Expanding the scale of higher education in social employment downturn

Education is the only one with anti-economic cycle function. When the social and economic downturn brings the labor market downturn, it is necessary to fully develop the function of the huge education system as a "reservoir" of labor force. When there is a serious shortage of employment in society, it is a drop in the ocean for the government to use administrative orders or economic means to encourage market players to keep the existing number of employees and try to develop and create jobs to absorb young workers of the right age, which can only be used as a temporary coping policy to face the huge unemployed population and cannot solve the fundamental problem. Foreign experience also shows that simply increasing the average employment rate will not only not increase the economic growth rate, but also reduce the average labor productivity of the whole society. Instead of crowding a large number of school-age workers in the limited recruitment market and chasing obviously insufficient jobs, it is better to use policy means to expand the scale of higher education and encourage them to enter universities and technical colleges to improve their knowledge and skills, that is, to invest and accumulate human capital. In this way, there will be

three results. First, the contradiction of oversupply in the job market will be alleviated. Second, it has reserved talents for the next round of economic take-off. The law of economic development cycle determines that the trough will be followed by the peak. The laborers who seek the increment of human capital through higher education in the economic downturn will finally play a huge role of education in economic growth in the economic recovery period. Third, actively expanding the scale of higher education and encouraging people to enter colleges and universities to receive higher education will inevitably stimulate investment in education and expand the current consumption of the society. In the economic downturn, the expansion of consumption is conducive to alleviating the weak state of production.

3.2.2 Controlling the scale of higher education in the booming social employment

On the contrary, a new round of economic growth began after getting out of the trough of economic operation. The measures taken previously to revitalize the economy, such as changing the mode of development, adjusting the industrial structure and developing new growth points, are gradually coming into effect, which will inevitably lead to the re-entry of social employment into a prosperous period. As a result, the demand for workers with advanced knowledge and professional skills from the main market will expand. At the same time, potential workers who have received professional training through higher education have basically completed the accumulation of human capital during the economic downturn. According to the theory of human capital, the development of modern economy can no longer rely solely on natural resources and human physical labor. In production, it is necessary to improve the intelligence level of manual workers and increase the composition of mental workers in order to replace the original factors of production. Unemployed people can only engage in simple labor as simple labor force before receiving higher education, but become a labor force with complex labor ability characterized by scientific knowledge form after being educated with advanced professional knowledge and skills. The improvement of workers' knowledge and skills can not only meet the demand for talents during the economic take-off, but also lead the adjustment of economic structure.

The scale of higher education in this period needs to be deliberately controlled to release the current stock of human capital as far as possible, because if the employment situation is perceived to be improving and investment in higher education is blindly added, the situation that educational development lags behind the rapid economic and social development will inevitably occur due to the relatively long period of personnel training and the unpredictable market situation, which is likely to result in the waste of talents.

3.2.3 Higher education benefiting from reservoir regulation

Both the expansion of higher education in the downturn of social employment and the control of scale in the boom of employment are the result of the government-led demand for the corresponding adjustment in the higher education system outside the higher education system, rather than the spontaneous behavior of higher education caused by market forces in the natural state. Therefore, the scale expansion of higher education under the guidance of policies is bound to be strongly supported and invested by the state in human, material and financial resources. At the same time, the policy will intentionally guide all kinds of social groups and market players to invest in higher education. In addition, the increase in enrollment will also bring about an increase in personal investment in education, which is the best opportunity for the development of higher education to quickly accumulate the resources needed for development.

In that way, it also provides a valuable opportunity for higher education to adjust when it is necessary to intentionally control the scale of higher education in the period of vigorous social employment. Firstly, after the enrollment is controlled, the loss of university resources will be reduced accordingly; Secondly, it is also very important that all kinds of problems will inevitably be exposed due to the impact and changes in personnel training mode, professional structure setting, management methods and so on caused by the great increase in enrollment before. After the tide of enrollment recedes, colleges and universities can correspondingly reform and adjust, improve school-running efficiency and fully prepare for the next round of enrollment peak.

4. The urgent needs and path selection of the expansion of enrollment scale in China

Education is the foundation of people's livelihood, and employment is the foundation of people's livelihood, so it is a double benefit to relieve employment pressure through education "leverage". The enrollment policy of moderately expanding the enrollment scale of postgraduates and inclining to special industries such as medicine and public health is not only a good way to quickly stabilize the social mood and ensure social stability in the short term, but also a good way to moderately expand the enrollment scale of postgraduates in the long term, which meets the development requirements of China's coming era of popularization of higher education, contributes to the overall improvement of national quality, further promotes the optimization of labor market structure, and promotes the rapid development of national economy [12].

4.1 A modest expansion of graduate enrollment

In recent years, driven by many factors, such as the higher requirements of candidates for their own development, higher employment pressure of graduates, the inclusion of part-time postgraduate examinations in the unified examination, and the expansion of postgraduate enrollment, the number of applicants for postgraduate studies in China has been increasing year by year. On December 18, 2019, according to the information from official website of the Ministry of Education, the number of applicants for the national postgraduate entrance examination exceeded 3 million in 2020, reaching 3.41 million, an increase of more than 500,000 over that of 2018, reaching a new historical high.

An appropriate expansion of graduate enrollment is not only a good way to alleviate the employment pressure of college graduates under the economic downturn, but also an essential option to deal with the demand for high-level talents from the country's economic construction, scientific and technological progress and social development in the long run. If the current and future social needs constitute the necessary conditions for the expansion of the graduate enrollment, the increasing cultivation ability of graduate students in colleges and universities provides the possibility of the expansion of the enrollment scale. The unity of the two makes the expansion of postgraduate enrollment scale in China inevitable under the current special background.

4.2 Adjusting the enrollment major

It is the basic countermeasure to adjust the professional structure of colleges and universities in time for the structural imbalance of market demand for talents after the expansion of colleges and universities. The specialty setting in colleges and universities is quite complicated, which should not only follow the law of education but also meet the law of social development, and also support and lead the industrial development. Because of the changeability of the market environment, the renewal of major structure in colleges and universities objectively lags behind the market demand, so the purpose of major reform is to maximize the adaptation between majors and market, connect the industrial chain with major chain, give full play to the supporting role of majors to industry, and realize the win-win situation of college education and market.

Public health emergencies have made the public realize the importance of medicine and the value of industries such as artificial intelligence, online education, e-commerce and logistics in major public health events. Corresponding majors such as basic medicine, clinical medicine, preventive medicine, pharmacy, public health, online education, artificial intelligence, applied psychology, etc. have come into public view. With the global spread of the epidemic, the demand for the above majors will further increase. Therefore, colleges and universities should, on the basis of social demand, increase the intensity of professional structure adjustment, optimize the professional structure, improve the quality of education in colleges and universities, and enhance the social service ability of colleges and universities to play a regulatory role in the social employment problem.

5. Conclusions

Of course, there are some limitations in this study, which need further improvement. In the statistics of the International Labor Organization, the unemployment rate, as an important indicator of the labor market, is further broken down into the unemployment rate of people with different education levels. A comparative analysis between the unemployment rate of the secondary education population and the enrollment rate of higher education will make this study more accurate. However, after many searches, the unemployment rate of secondary education population in six OECD countries from 1980 to 2018 cannot be obtained continuously. Therefore, the overall unemployment rate is used for approximate analysis. In addition, the failure to publish the university enrollment rates of Australia and France in individual years on the World Bank website will also make the accuracy of this study slightly insufficient, which also gives us a useful reminder that we should pay attention to the construction of national statistical indicator system, regardless of the social and economic development or higher education development, and make the data show a continuous and comparable dynamic change process, so as to better provide the basis for the development of higher education and the decision-making of human capital in China.

Acknowledgments

This paper was financially supported by Key Programs of Philosophy and Social Science Research in Jiangsu Universities in 2018 "Research on Teaching Competence Quality Standard and Training Mechanism of Young Teachers in Higher Education Institutions in Digital Times --- Based on the Investigation of Eight Universities in Jiangsu Province" (2018SJZDI178)

Note

Missing enrollment data for some years in Australia and France

References

- [1] National Bureau of Statistics. <https://data.stats.gov.cn/easyquery.htm?cn=C01&zb=A0201&sj=2020>.
- [2] Zhang Xin and Lyu Fang. Impact of Major Public Health Emergencies on Employment of Undergraduates and Coping Strategies. *Public Relations World*, 2020, 12:7.
- [3] The World Bank: The global economy is expected to decline by 5.2% in 2020 due to the impact of the COVID-19. <https://oversea.huanqiu.com/article/3yaABM4hv3W>, Jun. 9, 2020.
- [4] The global labor market crisis will continue until 2023. https://www.sohu.com/a/470137179_162758, Jun. 3, 2021.
- [5] International Labour Organization. *Key Labor Market Indicators* (9th edition). Beijing: Chinese Financial & Economic Publishing House, 2010:22.
- [6] (UK) Written by Bryan Snowden, Howard R. translated by An Jia et al. *Encyclopedia Dictionary of Macroeconomics*. Nanjing: Jiangsu People's Press, 2019:541.
- [7] The World Bank. GDP Growth Rate. <http://data.worldbank.org.cn/indicator/NY.GDP.MKTP.KD.ZG>.
- [8] The World Bank. Total Unemployment. <http://data.worldbank.org.cn/indicator/SL.UEM.TOTL.ZS>
- [9] The World Bank. Enrollment Rate, Institutions of Higher Learning. <http://data.worldbank.org.cn/indicator/SE.TER.ENRR>.
- [10] Liu Wenxiao. Comparative study on influencing factors of higher education demand at home and abroad. *Meitan Higher Education*, 2015, 33(2):19.

[11] Xie Zuoxu. Martin Trow. Comment on the Theory of Popularization of Higher Education. *Modern University Education*, 2001, 3:13.

[12] Qi Zhanyong, Chen Peng. Urgent need and path selection for expansion of graduate students in China under the background of major epidemic situation. *Journal of Hebei Normal University*, 2020, 22(2):19.