

How the Level of Education Affects Income Inequality in China

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Abstract: The issue of education and income inequality is receiving increasing attention worldwide. This paper mainly focuses on the relationship between the level of education and income inequality. This paper provides a literature review and then delves into the social situation, societal phenomenon, and government policies in the Chinese context. It concludes that there is a close connection between education and income inequality. By comprehensively analyzing the correlation between education and income inequality in China, this paper reveals the relationship between the two by sorting out the effect of various factors within a given context. It offers implications for government to address and alleviate disparities in the country's socio-economic situation.

Keywords: Education, Income inequality, Chinese context, Social situation, Policy

1. Introduction

In recent decades, the global economy has experienced a significant increase. Under the circumstances, many countries experienced intensive improvements in their stages of economic development due to their political, institutional and social changes. China is a famous example of a country affected by these changes. China has undergone significant economic development with the reform and opening-up policies and institutional changes from a planned economy to a combination of a planned and market economy. Nevertheless, more importantly, a series of social and economic problems appeared with rapid economic development and sharp institutional changes. One of the most important and serious problems was the enormous income inequality, reflected by the vast wage gap between high-skilled and low-skilled labour. Carter and Howard (no date)[1] suggest that in economics terms, it means significant disparity in the distribution of income between individuals, groups, populations, social classes, or countries. The most widely used indicator and measurement of income inequality is the Gini coefficient, or Gini index, measured from 0 to 1 or from 0 to 100. An economy with a Gini coefficient of 0 has extreme and perfect equality within its country, meaning every person shares an equal amount of income. On the contrary, economies where income is distributed to one person and all other people have no income have a Gini of 1, which is maximal inequality. The significant income inequality led to a series of social problems, like rising crime rates.

In recent years, the Chinese government has become increasingly concerned about problems brought on by income inequality. In order to fix them, the government began to focus on exploring the causes of income inequality. In recent years, increasing numbers of economists have put their efforts into exploring the relationship between human capital and income inequality, and they affirmed education as the representative of human capital. However, when it comes time to conclude the relation between education and inequality, there appear to be consistent controversies and disagreements on the actual relation between them. So, what is the actual relation between the spread of education and income inequality? Is a country's education amount and level directly or inversely proportional to income inequality? This article mainly focuses on exploring the relation by first analyzing a series of social and economic factors that make the relation controversial and then focusing on the potential effects of educational policies on income inequality within China. This work established our own points of view based on opposite viewpoints about the relationship between education and income inequality. This work reminds governments to take a balance between the advantages and disadvantages of their educational policies on income inequality.

The literature review part of this article analyses former research on the relationship between education and income inequality and shows that the researchers have opposite standpoints. There are three parts to the analysis. The first part mainly investigates the social and economic factors that can influence the relationship between education and income inequality. The second part of the analysis states the current education and income inequality situation in China. In the last part, two policies the Chinese government made on education are mentioned and analyzed to help reduce income inequality by providing more education. One policy, the "Double Reduction" policy, stated to intensify income inequality by increasing the unemployment rate and making the gap between education amounts accepted larger. The conclusion part focuses on concluding the analysis process and the results of this paper.

2. Literature Review

Many scholars have already studied the relationship between education and income inequality. In modern economics, most researchers insist that the spread of education negatively affects income inequalities within economies, in which increases in education can cause reductions in income inequalities. Lee and Lee [2] consider human capital, measured by education attainment, as an essential factor influencing income inequality. In the article, they compare the trend of Gini coefficient change and educational attainment change in regions of the world between 1980 and 2015 and show that education expansion is inversely proportional to income inequality. Lee and Lee's [2] study mainly focuses on exploring the relationship. Differently, several other studies tried establishing reliable explanations for the negative relation. Lee and Francisco [3] suggested that many governments put their education improvement plans mainly on poor children, that is, to execute education priorities. This policy by governments can reduce income inequality significantly. Chiswick [4] gave a comprehensive explanation of the effects of this kind of policy by stating that increases in education level for poor children tend to lower the wage premium for skilled labour by providing a higher supply of skilled labour, this eventually leads to a smaller gap between wages for different groups. A more detailed and comprehensive example of what Chiswick explained was given by Svilen Mihaylova [5]. He proposed that education can reduce the effect of FDI (Foreign Direct Investment) on income inequality. FDI companies require highly skilled labour in those CEE countries. The great demand and relatively low supply of highly skilled labour caused their wage to be high, thus the wage differential. However, as education expanded, there was a larger supply of skilled labour. As a result, the wage gap decreased.

Meanwhile, a significant number of economic researchers suggest an opposite point of view by proposing that an increased amount of education actually leads to higher income inequality, in which

they are directly proportional to each other. In an article that investigates the relationship between public education and income inequality, Glomm and Ravikumar [6] mention that public education will generate rising income inequality for several generations of people and choosing education based on self-selection but not mandatory schooling can cause greater educational inequality and thus income inequality because wealthier people can choose better schools. Some other people investigate the relation between education and income inequality depending on different stages and levels of education. Shahabadi, Nemati and Hosseinidoust [7] suggest that education at primary and secondary levels negatively affects income inequality because of compulsory education. However, education at university is believed to positively affect income inequality in society because of the higher requirements for financial capability for attending universities. As a result, the more affluent people will become higher-skilled labourers in the future, and the wage gap tends to become more prominent.

3. Analysis

This paper examines the social context, education levels, labour market demand and supply, and social values as factors contributing to the two outcomes: education reduces and increases income inequality.

3.1. Factors affecting the relationship between education and income inequality

Income inequality is affected by many factors in different social contexts. In most cases, people with higher levels of education usually have access to better job opportunities and higher income levels. Higher skill levels provide greater returns to schooling based on observable individual traits [8]. However, in some societies, or stages of functioning societies, most of the population will have a college degree or higher, and higher education will become a common phenomenon. However, competition becomes increasingly fierce as employment is limited and supply and demand are out of balance. As a result, a situation may arise in which highly educated individuals with weak overall skills cannot find jobs or secure relatively high wages.

First, the labour market's mismatch between supply and demand is an essential factor in income inequality. A high level of education does not ensure high wages if the majority of the population is highly educated but is working in a relatively small number of professions or professions for which there is a relatively small demand or an excess supply in the market. In this case, some more professional jobs may pay higher wages because of a shortage of talents or a relative lack of supply, such as babysitters, hairdressers and other occupations with a low educational attainment threshold. In a nutshell, certain occupations may be in short supply, resulting in higher income levels for these occupations. On the contrary, some more specialized occupations may have lower incomes due to insufficient human resources. This relationship between supply and demand may lead to income inequality.

Second, societal values and perceptions of different occupations can also affect income earnings inequality. Some occupations may be undervalued in some societies, resulting in lower salaries for people in those occupations, even if they have higher qualifications. This may be because these occupations are perceived as non-high-status occupations in society. Occupations perceived to have high social status and value, such as doctors and lawyers, may have correspondingly higher salaries for people with higher qualifications. On the other hand, jobs in specific fields or occupations that are highly specialized and require special skills, such as chefs and other occupations, have yet to attract enough talents to take up these jobs due to the low social value attached to these occupations. There is an oversupply in the job market, and prices have risen. In this regard, people with low educational attainment who are employed with specialized jobs without high educational thresholds may have higher incomes than people with high educational attainment, and income inequality is reduced.

Higher education is usually associated with better employment opportunities and income, but in specific social contexts, such as when jobs are limited and competitive or when there is a shortage of people for more specialized jobs, people with higher education may not necessarily have a higher income than those with more specialized jobs.

3.2. Education and income inequality in China

The degree of income inequality among China's urban residents is affected by the level of education, and the extent of this effect depends on the level and type of urban education. Overall, the income disparity among China's urban residents is significant and tends to widen. Therefore, by actively promoting the development of urban education and focusing on primary, secondary, and higher education, especially in the central region, the income gap among urban residents could be gradually reduced [9].

However, the number of undergraduates graduating in Chinese society has continued to increase in recent years. In 2023, 11.58 million undergraduates are expected to graduate nationwide. The increase in the number of undergraduate graduates and the internal competition in society has gradually weakened the employment advantage of graduates. Many undergraduates are caught in irrational internal competition or so-called "voluntary competition", in which they invest more time and energy in competing for limited resources, and the return on individual effort gradually declines, creating a phenomenon of "effort inflation".

In large cities, in terms of the type of cities, Increased education levels in provincial capitals have widened the income gap between urban residents [9]. Many highly educated young people entering society face employment difficulties, especially college students who lack work experience. In recent years, the epidemic and the economic downturn have led to layoffs and wage cuts by enterprises, making it difficult to find jobs, with a mismatch between the number of job-seekers and the number of available positions, putting young job-seekers in a problematic situation. Graduates find that available positions do not meet expectations but are reluctant to take up low-barrier, low-social-status jobs because of their high educational attainment. The involution of education makes it difficult for highly educated graduates to find high social status jobs that meet expectations and earn an income. Societal values hierarchize jobs, and some insist that highly educated people should have access to high-social-status jobs but cannot find them, resulting in a lack of income.

Improvement in the level of education in prefectural and county-level cities contributes to narrowing the income gap between urban residents [9]. However, in some small cities with relatively backward economies, highly educated people can generally find jobs of higher social status. This is because small cities do not face intense competition and disintegration compared to large cities. From this perspective, education reduces economic disparities between regions.

3.3. Policy impact

These years, the Chinese government has implemented many policies about education. Next, this paper will provide a detailed analysis of these policies and their impacts on income inequality. The essential contents of the policies are listed in Table 1.

Some policies have successfully alleviated education and income inequality. For instances:

1) Scholarships and Financial Aid Programs. For details, please refer to the second column in Table 1.

2) Universal access to compulsory education. For details, please refer to the third column in Table 1. It has indeed achieved significant success: From 2000 to 2015, the teenage literacy rate has increased from under 90% to almost 96%.

These policies can both mitigate education inequality. Despite the reference mentioned earlier,

another group of scholars believes that reducing education inequality could improve fairness for everyone and provide people with equal opportunities, thereby decreasing income inequality. Card [10] reveals that experiments in different regions and periods have proved that individuals with higher levels of education are more competitive in the labour market and tend to have higher-quality jobs than those with lower levels of education.

Table 1: Summary for Policies

Time	Policy	Content	Aim
May, 2005	Scholarships and Financial Aid Programs	Grant scholarships to the students come from under-poverty families or those who have made outstanding academic achievements	Ensure educational equity and encourage academic development
Sep, 2006	Nine-year compulsory education	The fundamental education which requires all the teenagers to receive for nine years	Reduce illiteracy rates and enhance the quality of the population
Jul, 2021	Double reduction policy	Reduce the burden of in-school homework and alleviate the load of off-campus training	Reduce the stress of students on study and promote holistic development

Unfortunately, some policies have indeed exacerbated income inequality, albeit they effectively achieved their original goals. The most typical example is the "double reduction" policy. For details, please refer to the fourth column in Table 1.

1) As for alleviating the load of off-campus training, this would significantly increase the unemployment rate because, before the double reduction policy, a large number of extracurricular institutions existed in the extracurricular training market, which generated a massive amount of job vacancies. However, after implementing the "double reduction" policy, many institutions went bankrupt, leading to layoffs of employees, and recent graduates struggled to find jobs. Unemployment due to policy is structural unemployment. Mocan [11] reveals that structural unemployment would cause anabatic income inequality.

2) People often assume that the higher the level of education they receive, the higher the salary they could earn in the future. Mayer [12] believes that a person's level of education can foreshadow their future salary level. Before the "double reduction" policy was implemented, extracurricular training was almost necessary in children's lives. Actually, it is true that this type of education indeed helps children acquire more knowledge and improve their study efficiency. However, after the policy was implemented, most of the training institutions exited, leaving only a few one-on-one courses available, which required high tuition. These expensive courses lack comprehensive regulation and strict oversight. As a result, children from the wealthy family still have the opportunity to gain additional knowledge through this higher-quality education. However, ordinary families cannot afford the expensive course fees, which prevent a large proportion of children from receiving one-on-one education. Ashenfelter and Krueger [13] investigated the salary levels of twins with different levels of education and found that the more educated individual generally had an income 12-16% higher. In the long run, the small portion of the youth from wealthy families, who have acquired more

and better knowledge during childhood, are more likely to have access to more opportunities. On the other hand, teenagers from ordinary backgrounds will miss out on these chances. To some degree, it will increase income inequality and even reinforce class stratification. As for class, Greenstein [14] used a decomposition of inequality to show that the precariat class structure explains a substantial and growing portion of income inequality. Liu [15] envisions that the income of the command class is likely to be higher than that of the dominant classes and vice versa. Finally, through quantitative analysis and statistical tools, he confirms, considering various indicators, that the command and farmers classes have the highest and lowest incomes, respectively. The income levels of both the working class and the middle class are situated in the middle range. From this, social class is also an essential factor that could influence income inequality. It is necessary to mitigate class stratification and increase class mobility through spreading education.

4. Conclusion

Education is the basis of innovation for human beings, and inequality determines fairness, justice, and the well-being index for everyone. Moreover, these two crucial factors are strongly connected to some extent, so it is necessary to explore their relationship.

In conclusion, this work has explored the relationship between the level of education and income inequality. Firstly, this work briefly sketches the current social situation. Secondly, this paper analyzed past literature, which found that there are two completely opposing points of view. This work delved deeper into literature analysis and presented unique viewpoints based on this controversial topic. This paper conducted analyses from various perspectives. As for the societal standpoint, this article explored the impacts of market supply and demand structure, social perceptions, and overall educational levels in society on the relationship between education and income inequality.

Additionally, from the political side, this work dissected the reasons behind this situation in China. After that, this paper discussed how specific policies implemented in China have influenced both aspects.

However, some limitations exist in this work. This study has focused on a relatively narrow realm of factors: the social, political, and economic dimensions while ignoring the impacts of uncertainties such as the environment.

Overall, further study and research could be repeated using quantitative methods and assess the long-term effects of different factors. Furthermore, the relevant policies implemented by the government should take into account the specific national situations. The equally important is that the government should balance the pros and cons of these policies by conducting analyses of their impacts on educational levels and income inequality.

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