The Impact of Vocational Education Financial Aid Policy on Employment Quality of Students Based on Structural Equation Model

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Abstract: Student financial aid not only serves as a potent guarantee of equity in vocational education, but it also significantly affects the employment quality of college students. Based on the principle of educational fairness, this paper employs a structural equation model to experimentally evaluate the process by which student financial aid affects employment quality. Then, this paper confirms this mechanism through experiments and data analysis. The results indicate that a fair student financial aid system significantly improves students' prospects for future employment. Meanwhile, funding equality and financing equity play parallel mediation roles in the impact of the process of student financial aid on employment quality. This article also combines justice and efficiency in order to support the continual improvement of the vocational education financial aid system and to assist impoverished students in their future career development.

1. Introduction

Education funding is critical because it affects educational justice, social harmony, and our country's destiny. On the one hand, financial aid policies for college students can help students lessen their financial load and successfully complete their education. On the other side, it can motivate students to improve their knowledge and abilities. After graduation, college students can contribute to society by working and improving the quality of employment. At present, vocational colleges have typically developed a five-in-one financial aid system including awards, attendance, help, loans and subsidies, gradually implementing the solemn vow of "not letting a single student drop out of school because of poverty". However, there are several issues with the system of technical college finance. For example, the funding concept is rather outdated, relying mostly on financial and material means that cannot address students' psychological and self-actualization demands, and students experiencing difficulties perceive that there are insufficient effective ways. As can be seen, how to optimize the funding policy system of vocational colleges, maximize the fairness and efficiency of funding, and then improve the satisfaction of students, parents, schools, and the entire society, on the basis of continuously increasing funding input, is a key issue that

requires urgent attention and solution, and is worthy of in-depth research.

2. Theoretical Basis and Research Hypothesis

2.1 Theory of Educational Equity

Equity in education primarily refers to fairness in the beginning, fairness in the process, and fairness in the outcome [1]. As the most fundamental necessity and essential condition for equality in the process and the outcome, fairness in the beginning symbolizes the fairness of everyone's entitlement to an education. Fairness in the process mostly relates to equity in the caliber of education obtained and the choice of an appropriate education based on one's own needs. Fairness in the outcome mostly refers to the academic success of the students. Fairness in education is a crucial criterion to gauge a society's fairness. In order to establish equity in higher education, the state must provide financial aid to members of society according to their class, location, and income in order to ensure that they do not miss out on the chance to receive an equal education [2]. As a result, determining whether or not education is fair is crucial for establishing the standards for providing financial aid to low-income students. At this point, the nation needs to concentrate its financial assistance for low-income students in colleges and universities on the issue of equal access to education in order to guarantee that no student would be denied a college degree because of their family's financial situation.

2.2 Main Effect of Student Financial Aid on Employment Quality

The primary goal of financial aid is to "teach people" [3]. Through financial investments, the employment market climate can be improved. Through investments in various financial aid methods, it is specifically intended to improve the living economic status, learning environment atmosphere, mental health development, and personal comprehensive ability of student groups, allowing students to transition from "student" status to "social worker" status after leaving campus and improving the quality of employment [4]. Consequently, this essay puts forth the following presumptions:

H1: The quality of employment is significantly improved by student financial aid.

2.3 Mediating Effects of Funding Equity

Fair financial aid and precise financial aid are the prerequisites for implementing effective financial aid [5]. On the one hand, precise financial aid can broaden the coverage of financial aid for students experiencing true economic hardship, strengthen assistance and support for students experiencing economic hardship, and improve policy efficacy. On the other hand, precise financial aid can make college students feel that the financial aid policy is operating in a positive environment, so that students have confidence and motivation to actively apply for financial aid, as well as guarantee the right of every college student with economic difficulties to receive financial aid fairly, thereby increasing college students' recognition of the policy. Furthermore, fair financial aid implies a fair distribution of resources across financial aid topics, which will improve the allocation efficiency of the financial aid policy and promote students' employment chances and competitiveness [6]. As a result, the following hypothesis is proposed in this work.

H2: Financial aid equity acts as a moderator in the influence of student financial aid employment quality, i.e., improving student financial aid policies can promote financial aid equity, which improves student employment quality.

2.4 Mediating Effect of Funding Efficiency

It is simple to duplicate financial help, provide insufficient financial aid, and create the "difference between wealthy and poor" phenomena in the work of student financial aid if all types of financial aid resources are not coordinated [7]. We can increase the coverage of financial aid for poor students, improve the efficiency of financial aid, and make it possible for more students to benefit from the fairness of education by differentiating students with difficulties in family life and implementing different financial aid schemes for different levels. This will encourage students to actively complete their education and lay the groundwork for their future career development.

H3: Financial aid efficiency has a mediating function in the influence of student financial aid employment quality, i.e., improving student employment quality can be achieved by optimizing student financial aid programs.

Based on the above hypotheses, the comprehensive conceptual model of this study is proposed, as shown in Figure 1.
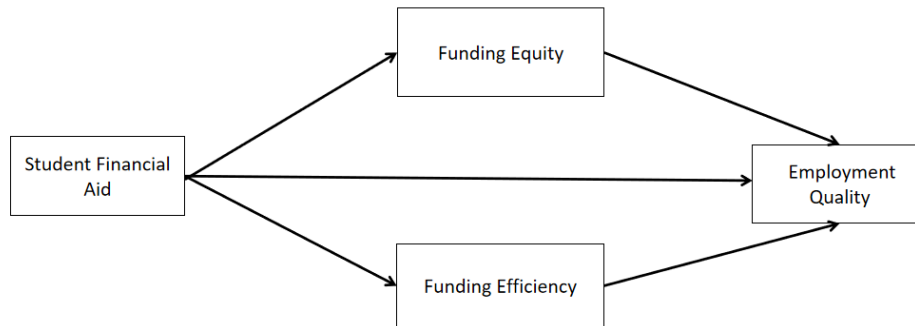

Figure 1: Research Framework

3. Empirical Analysis

3.1 Data Source and Sample Selection

In this paper, 360 questionnaires were sent to students at vocational colleges using the Credamo platform with the gender, grade, household registration, per capita monthly household income, and personal monthly consumption expenditure of the group as the basic information; invalid questionnaires and repeatedly filled out questionnaires were deleted, leaving 314 valid questions. The survey's primary target was students at vocational colleges who had received financial support. The detailed demographic information is shown below Table 1.

Table 1: Descriptive Statistics of the Sample (N=314)

Variables	Category	Number of people	Specific Gravity	Variables	Category	Number of people	Specific Gravity
SEX	Male	140	44.6%	Monthly per capita household income	Less than 1000 RMB	153	48.7%
	Female	174	55.4%		1000-2000 RMB	100	31.8%
GRADE	Freshman	110	35%		2000-3000RMB	47	15%
	Sophomore	148	47.1%		More than 3000 RMB	14	4.5%
	Junior	56	17.8%	Monthly personal consumption expenditure	Less than 1000 RMB	117	37.3%
Household Registration	Rural	211	67.2%		1000-1500RMB	170	54.1%
	Urban	103	32.8%		1500-2000RMB	24	7.6%
					More than 2000 RMB	3	1%

3.2 Reliability Test

The purpose of a reliability test is to determine whether the responses to all questions involving the same variable in a survey are accurate, reliable, and stable. In this study, the reliability analysis tool of SPSS27.0 was used to calculate the internal consistency coefficient of the complete sample data of the formal survey. According to the measurement criteria of previous researchers, a Cronbach's a coefficient between 0.7 and 0.9 is considered acceptable for scale reliability. Meanwhile, if the Cronbach's a coefficient is lower than 0.5, the scale is considered to be more problematic [8]. All of the important variables in this study have Cronbach's values over the cutoff of 0.7, demonstrating the scale's high level of reliability and supporting the particular reliability analysis. The results are shown in Table 2.

Table 2: Results of Reliability Analysis of the Survey

Variables	Cronbach's α
Student Financial Aid	0.836
Funding Equity	0.840
Funding Efficiency	0.871
Employment Quality	0.843

3.3 Validity Test

A questionnaire's validity is tested to determine whether it is measuring the anticipated outcomes. The Bartlett's sphericity test results all passed the significance level of 0.05, the KMO values of all the variables in this study were all greater than the level of 0.7, and the p-values were all less than 0.001, showing that the scale utilized had good validity is shown below Table 3.

Table 3: KMO and Bartltt's Sphericity Test for Each Variable

Variables	KMO test	Bartlett's sphericity test	Cumulative variance contribution %
Student Financial Aid	0.791	516.745***	67.472%
Funding Equity	0.787	537.098***	67.928%
Funding Efficiency	0.709	510.054***	79.632%
Employment Quality	0.778	526.813***	67.936%

3.4 Main Effects Test

With student financial aid as the independent variable, employment quality as the dependent variable, and controlling for demographic variables (e.g., gender, age, education), this paper first conducted multiple linear regressions and estimated regression coefficients using the OLS algorithm [9]. The results are shown in the table 4, and the regression model of student financial aid and employment quality was significantly positively correlated (=0.750, p<0.001) controlling for demographic differences. There were no significant differences in demographic variables, which indicates that student financial aid positively affects employment quality, i.e., research hypothesis H1 was verified.

Table 4: Results of Multiple Regression Analysis

Variables	Coefficient	SE	t	P
C	1.008	0.304	3.581	0.000
Student Financial Aid	0.735	0.037	19.663	0.000
sex	-0.062	0.083	-0.744	0.458
grade	0.010	0.058	0.172	0.864
Household Registration	-0.064	0.088	-0.730	0.466
Monthly per capita household income	0.059	0.051	1.160	0.247
Monthly personal consumption expenditure	0.047	0.069	0.674	0.501

3.5 Intermediation Effect Test

This study used the Bootstrap (Preacher, 2008; Hayes, 2013)[10-11] test method and the associated model to examine the mediating effects of financial assistance equality and efficiency on the relationship between student financial aid and employment quality. The steps in the analysis are as follows: First, PROCESS is chosen for regression analysis in SPSS 27.0, student financial aid is chosen as the independent variable, employment quality is chosen as the dependent variable, financial aid equity and financial aid efficiency are chosen as the mediating variables, and model 4 is then chosen, with a sample size of 5000 and a confidence interval of 95%. After controlling for mediating variables, the study' findings indicate that there is a significant relationship between student financial aid and employment quality (p=0.00000.01, LLCI=0.1662, ULCI=0.3674). A significant effect size of 0.1734 was found for the mediating path of "student financial aid-financial aid equity-employment quality" (BootLLCI=0.0796, BootULCI=0.2711, excluding zero at 95% confidence interval). The mediating path "Student Financial Aid-Financial Aid Efficiency-Employment Quality" has a significant impact size of 0.2949 (BootLLCI=0.2020, BootULCI=0.3917, with 95% confidence interval excluding zero). Thus, it is evident that research hypotheses H2 and H3 are true and that funding fairness and funding efficiency are the mediating factors of the effect of student financial aid on employment quality. Table 5 displays the findings of the specified analysis.

Table 5: Results of Intermediary Effect Analysis

Direct effect of X on Y (The effect of student financial aid on employment quality after adding mediating variables)						
Variables	Effect	SE	LLCI	ULCI	t	P
Student Financial Aid	0.2668	0.0511	0.1662	0.3674	5.2170	0.0000
Indirect effect of X on Y (Effect of mediating variables)						
	Effect	Boot SE	Boot LLCI	Boot ULCI		
Total	0.4683	0.0506	0.3694	0.5677		
Funding Equity	0.1734	0.0484	0.0796	0.2711		
Funding Efficiency	0.2949	0.0490	0.2020	0.3917		

4. Conclusions and Recommendations

The study on the effect of student financial aid on employment quality led to the following

conclusions: Financial aid for students is important in encouraging the quality of their employment and supporting their future career growth. Financial assistance efficiency and equity both play parallel mediation roles in the relationship between student financial aid and employment quality. As a result, rationally optimizing student financial aid policies in vocational institutions can support the equity and effectiveness of financial aid, which in turn can aid students in finding better employment chances and jobs. Overall, financial aid for students encourages educational equity, closes the achievement gap between low-income and wealthier students, assists low-income students in finishing their degrees, and supports their future professional growth. This report recommends the following actions from the standpoint of fostering students' employment quality and fusing the research's findings: First and foremost, vocational institutions must improve the specificity of financial aid and fairly apply financial aid rules. Second, to increase the effectiveness of financial assistance work, vocational institutions should train full-time financial aid workers. Thirdly, we should build a financial assistance system for vocational colleges and universities that "takes justice as the main premise and combines fairness and performance" in order to maximize the effectiveness of exact financial help in colleges and universities. Finally, technical colleges need to properly implement student financial aid work and diversify their sources of financial help.

Acknowledgements

References

[1] Zhou Hongyu. Education equity is the cornerstone of a harmonious society [M]. Anhui: Anhui Education Press, 2017:28

[2] Zhou Ping. Research on the problems and countermeasures of the financial support system for poor students in China's higher education institutions [D]. Soochow University,2018.

[3] Zhang Fuyou. The rationale of accurate financial support for students in general colleges and universities [J]. Heilongjiang Higher Education Research,2015,(11):78-80.

[4] Qu Shaowei, Wang Yinghui The promotion effect of college students' subsidy on moral education level, academic performance and employment quality [J] China Higher Education, 2018 (05): 24-26.

[5] Liu Yunbo, Bai Hua. Precise funding: new thinking on college student funding [J]. Education Review, 2016 (2): 67-70.

[6] Song X.D., Cao H.P.. Research on the evaluation of the implementation effect of college student financial aid policy and improvement countermeasures based on structural equation model[J]. Fudan Education Forum, 2017, 15(06):80-87.

[7] Zhao Bingqi, Li Yongning Research on the performance evaluation and improvement countermeasures of financial aid for poor college students [J] Research on Higher Engineering Education, 2007, (03): 64-68.

[8] Hair J F , Black B , Babin B J , et al. Multivariate Data Analysis[M]. Berlin:Springer Science & Business Media, 2012:226-254.

[9] Tao, Changqi, Xu, Ye, Wan, Jianxiang, Jiang, Haifeng, Qi, Yawei. Econometrics [M]. Nanjing University Press, 202101.403.

[10] Preacher,K. J.,Hayes,A.F.. Asymptotic and Resampling Strategies for Assessing and Comparing Indirect Effects in Multiple Mediator Models.Behavior Research Methods,2008,40(3):879-891.

[11] Hayes, A. F.. An Introduction to Mediation, Moderation, and Conditional Process Analysis: A Regression-Based Approach[M]. New York: Guilford Press, 2013.