

Evaluation and optimization of financial aid policies for ethnic minority students in colleges and universities under the background of comprehensive well-off society

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Abstract. Based on William Dunn's public policy evaluation theory, this paper analyzes and abstracts six dimensions and 23 standards to evaluate the implementation effect of the financial aid policy for ethnic minority students. And select colleges and universities in Tianjin to conduct a questionnaire survey, build a structural equation model, and study the multiple factors affecting the implementation effect of the student aid policy for ethnic minority students. Finally, put forward the path of the optimal policy. The results show that the existing financial aid policies for minority students in Colleges and universities in Tianjin have been effective in helping the poor, but there is still room for improvement in the implementation effect of the policies. Colleges and universities in Tianjin also need to optimize the financial aid policies for minority students from strengthening ideological guidance, broadening financial aid sources, opening green channels and other aspects.

Keywords: Minority college students; Financial aid policies; Public policy assessment; Structural equation model.

1. Introduction

With the development of China's higher education system reform, more and more ethnic minority students come to the mainland to study. In order to facilitate the learning path of college students from ethnic minority families with financial difficulties, the state has issued a series of policies. Among them, the decision of the State Council on accelerating the development of ethnic education in 2015 stipulates that the subsidy policies for ordinary high school students and college students give priority to ethnic minority students and students from poor families in ethnic minority areas. The subsidy policy for ethnic minority college students has attracted the attention of the academic circles. Zhou Lihua, a scholar, found that in addition to the same development needs as ordinary college students, minority college students also have some explicit or implicit special development needs[1]. Li Lipeng and Bian Ducheng discussed the problems existing in the process of financial aid for minority college students with financial difficulties, and proposed the construction of an accurate financial aid system and the way to build this system[2]. Zhang Yang and Peng Huatao point out that there is a certain imbalance in the allocation of funding resources, explain the factors that affect the balance of resources allocation, and put forward a series of countermeasures[3].

2. Evaluation system and model building

2.1 Evaluation system for the implementation effect of financial aid policies

2.1.1 Variable setting

The benefit index includes: policy understanding, policy coverage, capital intensity, policy focus and policy support intensity. The efficiency index includes: identification efficiency, resource allocation efficiency and work execution efficiency. The adequacy index includes: the adequacy of

capital source, the adequacy of capital distribution and the adequacy of capital execution. Equity indicators include policy equity, work execution equity, identity equity and capital distribution equity. Policy responsiveness indicators include policy satisfaction, job execution satisfaction and fund amount satisfaction. The effect index is observed from five aspects: learning, economy, activities, ambition and thought.

2.1.2 Funding policy evaluation index system

Latent variables	Observation variable	Measured variables
A Benefit	A1 understanding degree	I understand the university's financial aid policy
	A2 coverage	I or my poor classmates have all received financial support to varying degrees
	A3 Funding Level	I think the current poverty grant can meet the economic needs of poor students
	A4 Degree of attention	The degree to which schools attach importance to financial aid policies
	A5 Strength of support	I think the school aid policy supports the employment greatly
B Efficiency	B1 Identification efficiency	I think the identification process of poor students is convenient
	B2 Resource allocation efficiency	I think it's easier to apply for poverty aid
	B3 Work execution efficiency	Funding will be delivered on time and in quantity
C Sufficiency	C1 Sufficient sources of funds	There are many sources of financial support, including various corporate scholarships
	C2 funds are fully allocated	University scholarships and grants are open to poor students
	C3 funds are fully implemented	Schools have many green channels such as temporary grants
	D1 Policy Fairness	I think the financial aid policies is fair
D Fairness	D2 Fair execution of work	I think the school funding process is open and transparent
	D3 Fair identification	I think students identified by the status of poor students are in line with their actual situation
	D4 Fair distribution of funds	I think the allocation of school grants is based on daily performance and fairness
F Responsive ness	F1 Policy satisfaction	I am satisfied with the school's policy of subsidizing poor students
	F2 Job execution satisfaction	I am satisfied with the implementation of the school's funding work
	F3 Grant amount satisfaction	I am satisfied with the amount of financial support from the university
G Effect	G1 learning	Accepting the grant allowed me to invest more time in my studies
	G2 economic	After receiving the subsidy, I solved the economic pressure of my life and study
	G3 activities	After receiving the grant, I took an active part in school club activities
	G4 ambition	After receiving the grant I worked harder to pursue my dream
	G5 thought	After receiving the grant, I felt grateful and wanted to give back to the community and spread love.

Table 1 Three Scheme comparing

2.2 Research hypothesis setting and model construction

H1: A has a direct positive impact on G. H2: B has a direct positive impact on G. H3: C has a direct positive impact on G. H4: D has a direct positive impact on G. H5: F has a direct positive impact on G. H6: A has a direct positive impact on F. H7: B has a direct positive impact on F. H8:

C has a direct positive impact on F. H9: D has a direct positive impact on F. H10: D has a direct positive impact on A. H11: D has a direct positive impact on B. H12: C has a direct positive impact on A. H13: C has a direct positive impact on B. According to the above 13 assumptions, the structural equation model for evaluation of the implementation effect of funding policies is constructed as shown in the figure below.

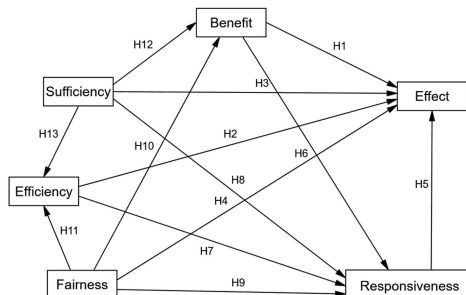


Figure 1 Structural equation model for evaluating the implementation effect of financial aid policies

3. Empirical analysis

3.1 Questionnaire distribution and data statistics

The questionnaire was measured by Likert seven scale. The objects of this survey are mainly students from three universities in Tianjin, mainly composed of freshmen, sophomores and junior students. A total of 500 questionnaires were distributed and 474 valid questionnaires were received, with an effective rate of 94.8%. The table 2 shows the overall information statistics of the questionnaire.

3.2 Reliability and validity test of the questionnaire

The Cronbach coefficient of each factor is above 0.8, the combined reliability Cr is above 0.8, and the average variance extraction ave is above 0.5, indicating that the scale has considerable reliability. The validity test results of the measured data are $KMO=0.873 > 0.8$ and $p\text{-value} < 0.000$, indicating that the questionnaire scale has high efficiency and can be used to identify structural equation models.

3.3 Testing and modification of structural equation model

3.3.1 Model recognition

Through Amos software to estimate the parameters of the data, it can be seen from the figure below that the significance level of efficiency on the Responsiveness path is 0.617, which is greater than 0.5, which can be considered as insignificant, The significance level of adequacy to Responsiveness path is 0.496, very close to 0.5, which can be considered as not significant enough. Therefore, hypothesis H7 and hypothesis H8 are rejected.

Table 3 Coefficient table of hypothetical model influence path

route	Estimate	S.E.	C.R.	P	Label
Benefits <--- sufficiency	0.376	0.050	7.539	***	H12
Benefits <--- fairness	0.251	0.041	6.140	***	H10
Efficiency <--- sufficiency	0.579	0.054	10.778	***	H13
Efficiency <--- fairness	0.063	0.042	1.523	0.128	H11
Responsiveness <--- sufficiency	0.047	0.069	0.681	0.496	H8
Responsiveness <--- benefits	0.302	0.070	4.298	***	H6
Responsiveness <--- fairness	0.537	0.050	10.699	***	H9
Responsiveness <--- efficiency	0.028	0.057	0.500	0.617	H7

Note: *** indicates that the regression coefficient is significant at the level of 0.01

3.3.2 Model modification

The two paths of efficiency versus responsiveness and adequacy versus responsiveness are deleted to modify the model. At the same time, it is found that the m.I value of G4, G5 and D3 is too large and has little correlation with their corresponding indicators. Therefore, delete the topics G4, G5 and D3 to obtain the final structural equation model, as shown in the figure.

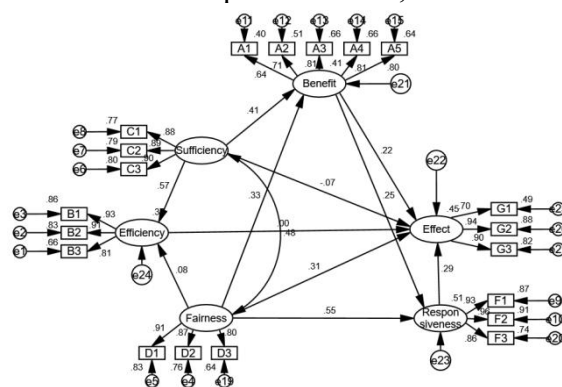


Figure 2 Modified structural equation model

3.3.3 Fitting value of modified model

The fitting values of the model are shown in Table 4. It can be seen that RMSEA and RMR are slightly larger than the ideal indicators, RFI is 0.863, slightly less than 0.9, CFI and IFI are within the ideal range. Considering the subjectivity of the questionnaire and the inevitable error of the questionnaire data, the goodness of fit of this structural equation model is acceptable.

Table 4 Modified fitting index

	χ^2	RMSEA	RFI	CFI	RMR
Fitting index	924.482	0.101	0.863	0.903	0.096
Ideal indicators	The smaller the better	< 0.08	> 0.9	> 0.9	< 0.05

3.4 Main ways to improve the effect of subsidy policies

According to figure 2, the total effects of the four explanatory variables on the policy effect are: benefit ($0.293 = 0.22 + 0.25 * 0.29$), efficiency ($0.48 = 0.48$), adequacy ($0.364 = 0.57 * 0.48 + 0.41$)

* 0.22) and fairness ($0.508 = 0.31 + 0.08 * 0.48 + 0.55 * 0.29$), The total effects of the four explanatory variables on the intermediate variables are: benefit (0.25), efficiency (0.000), adequacy ($0.128 = 0.41 * 0.25 + 0.57 * 0.08 * 0.55$) and fairness ($0.633 = 0.55 + 0.33 * 0.25$).

It can be seen the fairness, sufficiency and efficiency of subsidy are the key to improve the effect of financial aid policies.

4. Countermeasures and suggestions

4.1 Further enhance the effectiveness of the financial aid policies

Strengthen the publicity of subsidy policies in Colleges and universities and make full use of the convenience of the network for diversified publicity. Do a good job in ideological guidance and employment assistance, pay attention to the ideological guidance of ethnic minority college students and guide them to work hard and pursue their ideals. Build an employment guidance platform for ethnic minority poor students and provide one-to-one guidance.

4.2 Further improve the fairness of subsidy policies

In terms of the identification of ethnic minority poor students, a school wide student aid management system for ethnic minority poor students has been constructed to realize accurate subsidies. In terms of fund allocation, the process should be transparent and the allocation amount should be reasonable. The evaluation criteria should be clear and transparent, reduce students' objections to the evaluation results and improve policy satisfaction.

4.3 Further improve the adequacy of subsidy policies

Open diversified green channels, such as providing more work study opportunities for students and opening up the application of ethnic minority students in an all-round way. To broaden the sources of funds, colleges and universities can do a good job in publicity, actively communicate with social enterprises, and mobilize social forces and social funds.

Acknowledgments

This research was funded by 2021 College Student Innovation and Entrepreneurship Project in Tianjin (No. 202110059097) and by 2021 "Ideological Education and Value Guidance" special Project for College students in Tianjin (No. TJSZJYKT2021-Y012)

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