General and Vocational Tracks and Equity of Higher Education Enrollment Opportunities among Classes: A Reconstruction of Indicator System for Social Class-based Differential Enrollment Opportunities and its Empirical Analysis

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Based on the educational hierarchical reproduction theory and the MMI and EMI hypotheses, this paper discusses the impact of the tracking of general and vocational education at the secondary level on higher education opportunity equity among social classes. The study finds that increasing gross enrollment rates of both general high schools and secondary vocational schools can help improve the equity in admission opportunities of colleges and universities among social strata; expanding the share of general high school places by adjusting the structure of general and vocational tracks (that is, the general-vocational ratio) can effectively reduce the class disparities in college and university admission opportunities; neither the change in the scale nor in the structure of general and vocational tracks will contribute to alleviating class inequality in top university enrollment opportunities.

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The tracking of general and vocational education at the secondary level is the first streaming Chinese students face in the entire educational system. To some extent, it is not only educational tracking, but also a form of hierarchical differentiation among classes. In the context of worsening social inequality and blocked social mobility, there exist huge class disparities in the acquisition of resources and capital in students' early stage of schooling. The expansion of regular college and junior college enrollment scale and the continuous upgrading of the industry also contribute to the problematic circumstances of secondary vocational education such as low returns, implicit social discrimination, and obscure development prospects. The primary issue for the tracking of general and vocational education in China is the contradiction between the need of economy and industry for vocational education development and the low public demand for vocational education. The purpose of this paper is to explore the appropriate tracking scale and structure that help reduce the gap in student access to higher education among social strata from the perspective of regional development.

Research Hypotheses

The increase in total enrollment of general schools enable those students who would otherwise be diverted to the vocational track to enter academic schools and enhance their opportunity of attaining higher education, thereby improving equity in higher education opportunity among different classes. The following hypotheses are put forward in this study. H1: Expanding the general school enrollment scale is conducive to reducing the class gap in higher education opportunity disparity, while it cannot change the inequality in high-quality tertiary education opportunity among classes; H2: The increase in the proportion of general school places helps alleviate the class inequality in student access to higher education, whereas it makes no differences to the disparity in top-level university attendance among classes.

Sources of Data

This paper sources data from the enrollment database of all regular colleges and junior colleges in China and summarizes the number of enrollments in each region from in the academic year of 2014-2015. Additionally, it consults the China Statistical Yearbooks to trace the data of those students who participate in college entrance examination in this academic year (2014-2015) in various regions and draws on the numbers of regional primary school graduates (2008-2009), junior high school graduates (2011-2012), secondary vocational enrollments (2011-2012), high school enrollments (2011-2012), and regional high school graduates (2014 and 2015) of the corresponding groups whose college entrance examination year was in 2014-2015.

Results and Discussion

The Regression Analysis of the Effect of General and Vocational Education Tracking on Class Disparities in Tertiary Education Opportunity

After controlling for other factors, the gap in places between junior and senior secondary schools in various regions significantly affects the equity of higher education. The widened gap in school places results in the increased disparities in tertiary education opportunity among classes. In terms of the effect of school places on the class disparities in access to the general tertiary education (including regular and junior colleges) and the 4-year regular college courses, the logarithmic coefficient values are 0.005 and 0.006, respectively, which means that with every 100% increase in the gap in places between junior and senior secondary school, the disparity between the middle class and the lower middle class in the access to general tertiary education will expand by 0.5%, and that in access to 4-year regular colleges will increase by 0.6%. The R-squared values mediated by the model of enrollment scale of general and vocational tracks are 0.591 and 0.541, and the R-squared value mediated by the model of enrollment structure of general and vocational tracks is 0.407-0.458, which shows that the scale and structure of general and vocational tracks can properly explain their effects on class equity of college enrollment opportunities in three years. The P values of the F test are all less than 0.01, indicating that the overall model has a significant explanatory effect.

After controlling for other variables, the coefficients of the effect of the gross enrollment rate of general high schools on class disparities in student access to general tertiary education and 4-year regular college education are -0.165 and -0.158, respectively, statistically significant at the 1% level, which means that with every 100% increase in the gross enrollment rate of general high schools, the gap in general tertiary education and regular college education opportunities between the middle class and the lower middle class will significantly decrease by 16.5% and 15.8%, respectively. The increase in the gross enrollment rate of secondary vocational schools has a relatively small influence on the class disparities in general tertiary education and regular college education opportunities with influencing coefficients being -0.125 and -0.126, respectively, statistically significant at the 5% level, which indicates that with every 100% increase in the gross enrollment rate of secondary vocational schools, the gap in general tertiary education opportunity between the middle class and the lower middle class is reduced by 12.5%, and the gap in regular college education opportunity by 12.6%. Therefore, regarding the enrollment scale, the increase in the gross enrollment rate of both general high schools and secondary vocational schools is likely to enhance class equity in higher education opportunities, while the effect of expanding enrollment scale of general education is more pronounced.

Using the ratio of general-vocational school places (or the proportion of general high school places) to represent the structure of general and vocational tracks, this study discovers that without considering the discrepancy in school places between junior and senior secondary levels, the proportion of general high school places has no significant impact on the class disparities in the general tertiary education and 4-year regular college education opportunities. After controlling for the above discrepancy in school places, the proportion of general high school places significantly affects the gaps in the general tertiary education and 4-year regular college education opportunities between the middle class and the lower middle class, with coefficients of -0.192 and -0.167, respectively, statistically significant at the 1% level, which signals that with every 100% increase in the proportion of general high school places, the class disparity in the general tertiary education opportunity is reduced by 19.2%, and that in the 4-year regular college enrollment opportunity by 16.7%. After controlling for the discrepancy

in places between junior and senior secondary schools, the higher the proportion of general high school places in the structure of general and vocational tracks, the more conducive it is to the promotion of education opportunity equity between classes. Moreover, the increased proportion yields a slightly greater positive effect on the equity in 4-year regular college education opportunity than that in the overall tertiary education opportunity.

This result provides a new perspective in examining the role of tracking. Nowadays, China's high education is more universalized than ever before, gradually weakening the "screening function" of the college entrance examination. General-vocational education tracking, as the first streaming in students' entire education course, will largely affect their access to later opportunities. From the point of view of class equity, expanding the enrollment scale of general secondary education, to a large extent, allows students from disadvantaged classes more opportunities for further academic education, and delay the time of first "educational diversion", thereby promoting inter-class mobility.

The Regression Analysis of the Effect of Tracking on Class Disparities in Top-level University Attendance

To evaluate the class-based differentials in high-quality tertiary education, this study introduces diverse college categories into the model to examine the effect of tracking on first-class university enrolment opportunity. Mediated by the model of enrollment scale of secondary schools, the R-squared values is 0.478 and 0.431; Mediated by the model of structure of general and vocational tracks, the R-squared value is 0.424-0.590, signaling that the mediation of independent variables can explain the variance (between 42.4% and 59%) of class disparities in top university attendance. After controlling for relevant factors, neither gross enrollment rates of general and vocational secondary schools nor the ratio of general-vocational school places is significantly related to the class disparities in first-class university attendance. The result of analysis validates the initial hypotheses and demonstrates the intense competitiveness and rigorous selectiveness of top universities. Increased admissions of general high schools simply mean the raised number of participants in the college entrance examination. Virtually, the tracking of general and vocational education has no effect on ordinary class students' access to top universities.

Conclusions

Scaling up the enrollment of both general and vocational tracks by increasing the gross enrollment rate of general high schools and secondary vocational schools and other means will help improve the equity of admission opportunities of colleges and universities among social strata and reduce disparities in student access to higher education between the middle and lower classes. Additionally, increasing the proportion of general high schools (i.e., the general-vocational ratio) by adjusting the structure of general and vocational tracks can effectively reduce the stratum gap in college and university admission opportunities.

Regarding superior higher education opportunities, neither the increase in the gross enrollment rate of general high schools nor secondary vocational schools nor the rise in the proportion of general high school places in the general-vocational tracking structure can contribute to alleviating class inequity.