

Education Funding Inequality and Academic Performance Disparity between Migrant and Local Students in China

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Author Note

This project is the final assignment for Data to Manuscript in R (D2MR) instructed by Dr. Natalie Dowling. It also serves as an interim result of Jiayi Zou's MA thesis project. The author is grateful Dr. Dowling for supporting this project and offering guidance throughout the quarter.

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Abstract

This document is a template demonstrating the apaquarto format. It includes examples of how to create figures and tables, as well as how to reference them in the text. The document is written in Quarto, a system for creating documents with R Markdown. The apaquarto extension provides a template for creating APA7-formatted manuscripts.

Keywords: education inequality, internal migration, education funding, fiscal decentralization

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Introduction

Internal migration in China has accelerated along with urbanization since the implementation of Reform and Opening Up policy in the early 1980s. Statistics from the 7th National Census in 2020 show that over 70 million children in China have migration status, which means one fourth of Chinese child population move interprovincially or intraprovincially with their parents ¹. Education and sociology research focusing on internal migrant students found that these children have a relatively lower school achievement compared to local students without migrant status, and suffer from academic and financial difficulties, as well as alienation in public education system (Chen & Feng, 2013; Huang, 2017).

Previous studies offered policy explanations for migrant students' underachievement. Li (2018) indicated that central governments have less educational funding distributed to provinces containing more migrant population due to fiscal decentralization. On the other hand, the *Hukou* policy ² has a history of limiting policy supports for internal migrants including subsidies, fee standards, and other financial accesses, which contributes migrant students' underperformance in school (Lu, 2023).

However, both perspectives have failed to identify an integrated framework: if we can discover the impact of differentiated financial supports and per student funding appropriated to two groups of students, then it is plausible to assume that fiscal decentralization is producing local-migrant educational inequity through the lens of *Hukou* status.

In this study, I seek to understand **how governments' differentiated provision of education fundings affects the academic performance disparity between migrant students and local students in China**. My hypothesis is **when the government provides migrant**

¹ See in [Promoting reunion and avoiding separation - China's migrant children development report 2024](#).

² The *Hukou* Policy is a population management policy that restrains non-local residents from/uplifts the threshold of enjoying the same social, medical, and educational public services as local households do.

students with limited fundings, and less-supportive charging standards and subsidy policies, the academic performance gap between the two groups of students is likely to widen.

Beyond measuring educational disparities created by the complexity of fiscal decentralization and population management system, this research has practical significance for addressing the ongoing migrant problems in China's urban governance and the institution of compulsory education ([National Bureau of Statistics of China et al., 2023](#)). Last but not least, this study can also offer indications for how educational finance and policies provided by government interacts with structural inequality in other social contexts (e.g., areas with higher poverty level or racial disparities, see in studies by Baird ([2008](#)) and Hyman ([2017](#))).

Literature Review

In this study, we define *provision of education fundings* as a combination of three elements: (1) the amount of funding, including per-student funding, subsidies, and charging standards; (2) the proportion of funding, which is separated into central/provincial and county/district level; and (3) the indicator of differentiation, which is whether migrant students enjoy the equal educational financial resources as locally-registered students in terms of funding, subsidies, and charging standards. Inspired by Knoeppel and Della Sala ([2015](#)), we consider that education funding, influenced by fiscal decentralization and *Hukou* system, affects migrant and local students in the same schools through context for schooling, which results in unequal academic performances between two student groups.

Education Funding and Academic Achievement

Scholarship in education funding suggests that students of color have been continuously underfunded by federal and state, and the discrepancy between their and higher-SES/white counterparts' academic performance persists ([Darling-Hammond, 2004](#); [Gaddis & Lauen, 2014](#); [Lafortune et al., 2018](#); [Ryan, 1999](#)). In China, researchers found similar patterns and disparities among migrant students and local-*Hukou* students. Evidence from China Education Paney survey indicates that local students outperform migrant students at higher quantile point, and increasing total education expenditure is likely shrink the academic achievement gap ([Fang & Zhang, 2024](#)).

However, the association between other aspects of education expenditure (e.g. per student funding, central and local government appropriation ratio) and local-migrant academic outcome equity requires further exploration, as most studies center on how funding expands spatial education inequity rather than disparities between different *Hukou* statuses in cities (Wei et al., 2022).

Fiscal Decentralization and Discriminatory Policies against Internal Migrants

Beyond education finance disparities, education policies also differ for migrant and local students in many provinces, which means students without local registration (*hukou*) may have no government subsidies or face different charging standards. Researchers refer this phenomenon as deflecting internal migrants' demands and using education to control urban population influx (Chan & O'Brien, 2019; Friedman, 2018). The disadvantage encountered by migrant students varies in different city scenarios: if local education policy background is more *Hukou*-based discriminatory, then migrant students are more likely to receive lower school performance than local students (Ma, 2020). Deflecting education resources away from the underprivileged students occurs in U.S. schools to avoid losing fundings under school accountability, as the minority subgroups have a higher possibility to fall short of the average academic target (Hanushek & Raymond, 2005; O'Day, 2009). Similarly, turning down education fundings for migrant students is also a strategy for Chinese local governments to decrease overall financial stress due to fiscal decentralization (Jin et al., 2005; Long et al., 2017).

As migrant students represent social minorities with limited or without *Hukou*-related rights in urban spaces, exploring their education achievements influenced by government funding and financial supports can demonstrate the dynamic and diverse efficiency of providing public services, offering empirical evidence for the development of decentralization theory (Oates, 2005, 2008).

Data and Methods

Data

In this project, we use the follow-up (2014-2015) dataset from the China Education Panel Survey [CEPS](#). CEPS is conducted by National Survey Research Center at Renmin University of

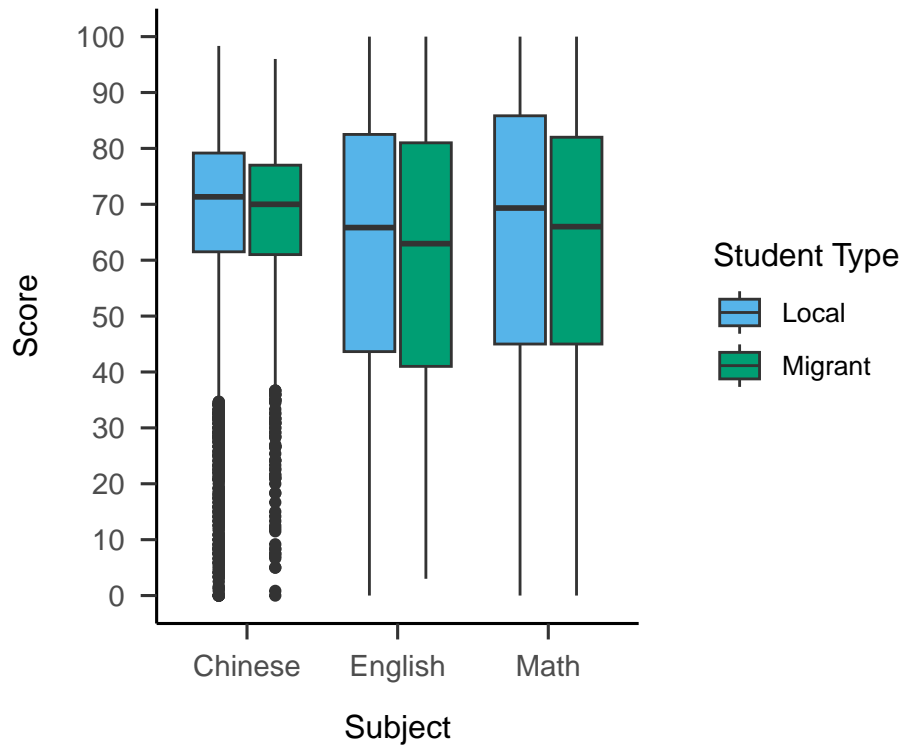
China and it is the most used dataset in studies of Chinese internal migrant students. Data includes 1769 migrant students and 7960 non-migrant students who have were at 9th Grade as in the final year of Junior High. We will merge datasets based on student, class, and school id, and remove values without valid information of hukou status.

Measures

The dependent variable in our study is the academic performance, which is measured by three indexes: score (percentage) of Chinese, Mathematics, and English exams. In Figure 1, a primary investigation into the follow-up dataset suggests that the medium and average of all three test scores for migrant students are all less than the equivalents for non-migrant students. Additionally, migrant students performances in Chinese and English exams are more concentrated than local students, but possibly due to different sample size. More outliers in Chinese exam scores appeared in migrant student group than their local counterparts, suggesting migrant students might experience greater difficulty in achieving in Chinese exams.

Figure 1

Comparison of the Distribution of Chinese, Mathematics, and English Exam Scores between Local Students and Migrant Students



As for the independent variable, we take three aspects into account: the amount of per-student funding and subsidies; the proportion of funding sources, which is separated into central/provincial level and county/district level; and whether migrant students enjoy the equal funding, subsidies, and charging standards as locally-registered students do.

Methods

Analysis Results

Conclusion

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