UNEVEN EDUCATION INVESTMENT: FISCAL DRIVERS IN URBAN AND RURAL CHINA

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Abstract. This study conducts a systematic literature review to explore how fiscal input disparities contribute to the uneven development of compulsory education across urban and rural regions in China. While existing research frequently discusses educational inequality in general terms, few studies specifically address the underlying financial mechanisms, including fiscal decentralization, local revenue capacity, and intergovernmental transfer payments; that shape regional differences in educational funding. This review analyzes 48 peer-reviewed articles published between 2014 and 2025 and establishes the main fiscal drivers of investment imbalances. It determines the influence of such differences on infrastructure, teacher quality, and student services across regions. The research further determines the impact of existing policy intervention towards equalizing education spending and establishes main gaps in the existing literature. Findings underscore the importance of more targeted fiscal policies and more robust oversight mechanisms to ensure efficient and equitable allocation of resources, particularly in underfunded rural counties. This study adds to a more targeted understanding of how finance frameworks shape education outcomes and provides suggestions for policy and future research toward mitigating urban-rural education disparities in China.
Keywords: *compulsory education, education inequality, urban China, rural China*

Introduction

Education has long been considered a pillar of fair social and economic advancement. The Chinese government has always prioritized universal access to compulsory education as vital to national unity and long-term progress. However, a vast gulf remains in the distribution of educational resources between urban and rural communities. This inequality invites some fundamental questions regarding underlying drivers of unequal investment and the fiscal systems underpinning local governments' capacity and incentive to prioritize education (Peng et al., 2025; Yuan et al., 2024). Moreover, the capacities of localities to finance mandatory education have become closely linked to their ability to pay, which worsens existing disparities (Sun and You, 2023). Urbanized population centres can invest more in salaries for teachers, infrastructure, and student services. Besides, the effectiveness of fiscal transfers is often hampered by inefficiencies in bureaucracy, weak monitoring, and perverse incentives at the local level (Yasmeen et al., 2023; Yishan et al., 2021). Moreover, their effectiveness is weakened by competing fiscal demands and local political agendas (Lu and Yang, 2024; Heckman, 2003).

In this context, systematic literature review (SLR) seeks to bridge this gap by reviewing peer-reviewed articles between 2013 and 2025. It seeks to highlight important themes, trends, and theoretical perspectives of fiscal impacts on compulsory education investment in Chinese cities and countryside (Cao and Chen, 2024; Xiang and Stillwell, 2023; Cao et al., 2020; Sun et al., 2017). This review aims to deepen the understanding of how disparities in fiscal input contribute to the imbalanced development of urban and

rural education in China. The study focuses on the mechanisms and consequences of uneven financial allocations across regions. These kinds of observations provide the necessary foundation for eventual research and policymaking to prevent structural imbalances in education finance as well as enhance the efficiency of resource allocation in China.

Theoretical framework: Conceptualizing disparities in investment in compulsory education

In examining the historical disparity in compulsory education expenditure between China's urban and rural areas, this study leverages three preeminent theoretical paradigms: Public Goods Theory, Fiscal Federalism, and New Institutional Economics. These models provide an in-depth analysis of education expenditure's structural and behavioral determinants. (1) Public Goods Theory: The theory of public goods is also known as compulsory education. This perspective is the basis of the argument that intervention by the government is required to facilitate equal and universal provision, especially where the market fails to offer basic education requirements (Bharathi et al., 2024). (2) Fiscal Federalism: Fiscal Federalism is about dividing fiscal responsibilities and powers among different levels of government (Bassetto and Hall, 2024). In China, recent decades have propelled greater public service responsibilities such as education onto the local governments. Yet, these local governments suffer from insufficient revenue bases, especially in impoverished rural areas. (3) New Institutional Economics: This perspective emphasizes the relative significance of institutions, incentives, and governance in shaping economic outcomes. In China, local officials are likely to be measured on the basis of economic performance, which causes education to become secondary relative to projects with faster or more tangible paybacks. This incentive misalignment diminishes the impacts of policies designed to enhance educational equity (Harden-Wolfson, 2024).

Conceptual model overview

The model built in this research specifies the important variables that interact to determine educational funding results. *Figure 1* shows the conceptual/ theoretical model with factors influencing educational resource allocation in various regions. (1) Fiscal Decentralization: It indicates the level of financial decision-making control local governments possess. (2) Transfer Payments: It quantifies the degree and composition of central-to-local authority financial transfers. (3) Local Fiscal Capacity: It measures the capacity of local governments to generate revenues and finance services. (4) Institutional Incentives: Describes how local leaders are judged and what is rewarded regarding behavior. Mediating Factor. (5) Local Government Prioritization: Measures the relative weight that local governments place on education in their agendas and budgets. (6) Educational Resource Allocation: Reflects the quality, extent, and fairness of investment in compulsory education by regions.

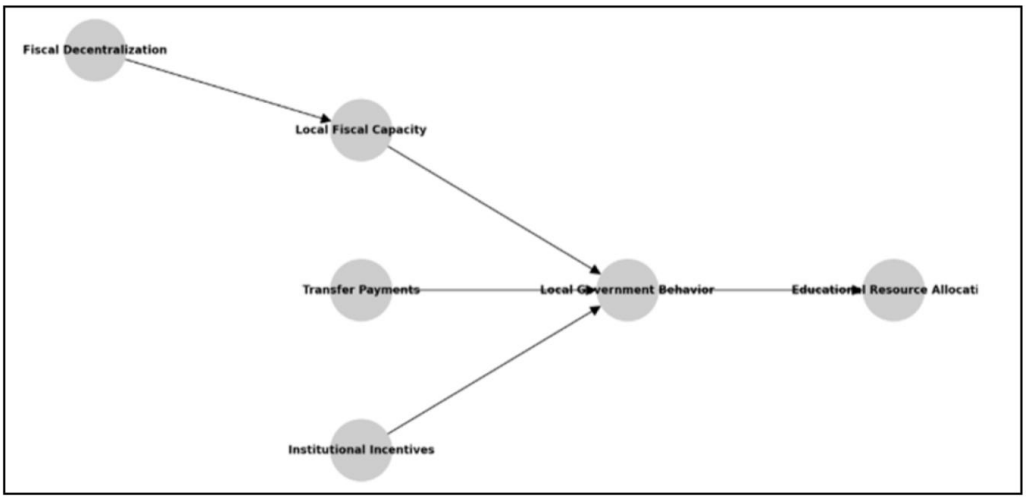

Figure 1. *Conceptual model overview: Factors determining the educational funding allocation.*

Research gap

Unequivocally, there is an apparent lack of focused analysis on how the quantity and structure of fiscal investment drive disparities between urban and rural compulsory education systems in China. There is also a lack of empirical research evaluating the efficiency of existing allocation systems or policy reforms to equalize fiscal investment. Thus, there is a call for more targeted research on interventions to bridge urban-rural education disparities, particularly in low-resource contexts (Zhang et al., 2025; Hallinger and Liu, 2016). Additional research should be conducted on how ICT can improve education equity based on blended learning approaches (Li and He, 2023). The professional development of teachers in rural schools must also be further researched (Hallinger and Liu, 2016). In addition, while empirical work on parental involvement and intergenerational impact (Xie et al., 2021; Ma, 2017) is beneficial, more empirical investigation into the social influence of education has to be carried out. Also, the long-run impact of educational policy (Xiao and Liu, 2014) and on the fairness of access to special education. Finally, the impact of school autonomy on local school performance needs more in-depth analysis (Xia et al., 2017).

Objectives and research questions

Specifically, this study seeks: (1) To specify and explain the fiscal reasons for investment inequalities in education. (2) To discuss how decentralization of finance and local budget procedures affect the provision of funds to urban and rural schools. (3) To solicit the function of transfer payments and equalization policies to reduce financial input differences. (4) To specify key areas of research shortfall and suggest directions for future research on fair and efficient educational financing. Additionally, the research questions of the study are as follows: RQ1: What are the main fiscal allocation mechanisms that affect the disparity in educational investment between urban and rural China? RQ2: How have writers characterized the impact of fiscal decentralization on funding for city and countryside education? RQ3: What are some conclusions regarding the ability of transfer payments to reduce interregional inequalities? RQ4: How do government behavior and local administrative institutions influence educational fiscal policy-making? RQ5: What are the most commonly proposed theoretical approaches

and policy recommendations, and what are the gaps in existing literature? This study explores the funding sources of unequal investment in compulsory education between urban and rural regions in China. It focused on factors such as limited rural revenue capacity, fiscal decentralization, and wasteful transfers that have widened regional disparities. Even though the central government distributes equal resources to compulsory education, the local governments are misaligning the funds, often making it harder to distribute equally to rural and urban regions. The present study summarizes the main findings from the systematic literature review, evaluates the fiscal policy effectiveness, and identifies the gaps in the available literature to direct future work.

Materials and Methods

This study follows a systematic literature review (SLR) methodology based on the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines. The review was designed to be transparent, reproducible, and rigorous in identifying and analyzing pertinent scholarly literature on fiscal determinants that affect compulsory education resource allocation in urban and rural China.

Research protocol

A pre-specified protocol led the review process, specifying the scope, aims, inclusion criteria, search strategy, screening methods, and data extraction strategy. The protocol was constructed to reduce selection bias, achieve consistency, and provide a clear line of evidence. This systematic literature review analyzes the factors of the compulsory education system, such as education expenditure, urban-rural inequality, and government fiscal policy in China.

Data sources and search strategy

This survey was conducted between 2014 and 2025, using a systematic literature survey that considered both the relevance and depth of the literature. The main aim was to capture high-quality, peer-reviewed literature considering fiscal effects on compulsory education investment in rural and urban China. Two of the largest multidisciplinary databases were chosen for searching i.e. Scopus (ScienceDirect)and PubMed. The reasons for selecting these two databases are as follows: (1) Scopus indexes broad coverage in social sciences, public policy, education, and economics and covers many top-ranked education finance and governance-oriented journals. (2) PubMed included pertinent studies that spill over into public health, development, or policy fields, where fiscal education research tends to intersect with more comprehensive socioeconomic and human capital research. Having both databases included provided cross-disciplinary coverage, making the review more comprehensive. Search Strategy and Syntax: An intentional set of Boolean search queries was used to identify relevant studies for the issue. Three thematic bases served as a guideline for identifying keywords: (1) Fiscal Policy/Finance: "education finance," "fiscal decentralization," and "public expenditure." (2) Geographical Context: "China". (3) Educational Scope: "Compulsory education", "primary education." (4) Urban-Rural Focus: "Urban", "rural." A representative Scopus search query was defined as follows: ("education finance" OR "fiscal decentralization" OR "public expenditure") AND

("China") AND ("urban" AND "rural") AND ("compulsory education" OR "primary education") AND (LIMIT-TO(PUBYEAR, 2014-2025))

Table 1 categorizes articles into five important themes that are relevant to education finance and governance. A clear code (K1 to K5) indicates each theme with corresponding keywords that were used to retrieve relevant publications in Scopus and PubMed databases. Fiscal Decentralization (K1) was the most researched theme with 21 total sources, with an emphasis on research on education finance and government expenditure. Urban-Rural Education Disparity (K4) produced the highest number of articles (23), showing high academic concern with addressing resource imbalances in compulsory education across regions. Transfer Payments and Equalization Funds (K2) and Governance and Local Implementation (K3) generated 17 and 14 results, respectively, showing moderate interest in equity and bureaucratic management of resources. Policy Evaluation and Reform Outcomes (K5) was the worst-represented theme by a mere 11 articles, and this indicates a small direct evaluation of education policies and fiscal outcomes. Further, the Mixed-theme papers that crossed areas of interest donated nine sources. The distribution pattern then shows research capabilities in structural and regional inequalities but indicates a disparity in policy impact assessment. Similar search logic was used in PubMed, modified to fit that platform's indexing scheme and MeSH (Medical Subject Headings) terms where appropriate.

Table 1. *Search keywords and sources of literature.*

Key theme	C	Search keywords mapped	S	P	T
Fiscal Decentralization	K1	"fiscal decentralization," "public expenditure," "education finance"	18	3	21
Transfer Payments and Equalization Funds	K2	"transfer payments," "education finance," "equity," "public funding."	12	5	17
Governance and Local Implementation	K3	"local governance," "bureaucracy," "fiscal policy," "resource use"	10	4	14
Urban-Rural Education Disparity	K4	"urban," "rural," "compulsory education," "resource allocation"	16	7	23
Policy Evaluation and Reform Outcomes	K5	"policy impact," "education reform," "fiscal outcomes"	9	2	11
Cross-cutting (multiple themes)	Mixed	-	6	3	9

Note: C=Code; S=Scopus; P=PubMed; T=Total.

Initial Search Results. Scopus: The search returned a total of 312 articles. PubMed: The search returned 74 articles. Together, the initial search resulted in 386 unique records prior to de-duplication. Supplementary Search Strategies: To ensure comprehensive coverage and to minimize publication bias, further sources were retrieved using: (1) Backward citation searching: Examination of reference lists of highly pertinent or high-citation studies. (2) Manual screening of systematic reviews, policy documents, and meta-analyses published within the same field. (3) While no official grey literature search was performed, possible relevant non-indexed references cited in peer-reviewed papers were examined for context. These add-on efforts brought 12 candidate records, subject to the same screening and eligibility criteria as database-sourced articles.

Inclusion and exclusion criteria

Stringent inclusion and exclusion criteria included only relevant, high-level research in the systematic review. They were used in abstract screening and full-text eligibility steps under research questions and methodological requirements of systematic literature reviews.

Inclusion criteria

Reviews were considered for inclusion in the review if they satisfied all of the following: Peer-reviewed journal articles only were included. This ensured that all included studies met scholarly standards for academic rigor, methodological transparency, and contribution to the field. Those studies published between January 2014 and April 2025 were selected to capture recent developments and represent post-reform fiscal dynamics. The data range encompasses the significant policy changes in China's education and fiscal governance environments. Qualifying studies should deal with China solely or predominantly and make specific mention of urban and rural education environments. Comparing China with another nation was included only if a significant body of findings related to the Chinese fiscal education system was involved.

Topical relevance

Studies were required to discuss education finance issues such as (but not restricted to): Fiscal decentralization and local government autonomy, Intergovernmental transfer payments or subsidies, Budget allocation, resource distribution, and funding equity, Public investment in mandatory education (e.g., infrastructure, teacher pay, access).

Materials and Methods

Quantitative, qualitative, and mixed-method articles were included. This provided a thorough knowledge of statistical trends and situational stories.

Language

Published studies in the English language were included only to facilitate international scholarly analysis and integration.

Exclusion criteria

Reviews excluded studies that met any one of the below criteria: Studies were not included if they only dealt with non-compulsory sector education areas, including: Higher education (e.g., university funding), Early childhood education (preschool or kindergarten), Vocational or adult education not connected to compulsory systems, Non-academic or Grey Literature, To ensure academic rigor, the following were not included: Commentary, opinion articles, editorials, Book reviews and conference proceedings, Theses, dissertations, and grey literature like NGO reports or unpublished working papers, Lack of Peer Review, Articles that were not peer-reviewed, like news articles or institutional blogs, were not considered. Methodological Inadequacy: Studies were eliminated if they failed to supply enough methodological detail for validity and reliability assessment. Lacked a clear empirical context or theoretical addition to fiscal education literature. Had anecdotal or narrative summaries instead of systematic examination. These criteria guaranteed that the ultimate collection of literature reviewed was methodologically robust and substantively relevant to the research objectives.

Study selection and screening process (According to PRISMA framework)

The study selection process adhered to the four traditional PRISMA stages: Identification, Screening, Eligibility, and Inclusion, through a structured and straightforward process. The aim was to rigorously filter pertinent peer-reviewed literature for inclusion in the ultimate synthesis of fiscal impacts influencing compulsory education in urban and rural China. 290 records were identified from two scholarly databases. Scopus: 257 records, PubMed: 33 records. No additional records were identified through citation searching, grey literature, or other sources. Duplicate entries were detected and removed using Covidence, resulting in 8 duplicates eliminated. No duplicates were removed manually. After de-duplication, 114 unique studies remained for the title and abstract screening. At this stage, 51 studies were excluded. 63 studies were allowed for review; at this stage, 26 studies were excluded based on the following reasons: Wrong setting (n = 7); Wrong outcomes (n = 3); Wrong indication (n = 4); Incorrect study design (n = 6); Incorrect population (n = 2). This left 37 studies that were retrieved in full for further evaluation.

Eligibility: All 63 full-text publications were retrieved successfully. Upon careful review according to the pre-specified inclusion and exclusion criteria (emphasis on compulsory education, fiscal themes, empirical or theoretical contribution, China relevance), 51 studies were excluded as not being eligible. The reasons for exclusion were recorded in an internal log to ensure transparency. Inclusion: Thirty-seven studies were included against all the inclusion criteria and were kept for final synthesis and analysis. They constitute the main evidence base for the systematic review and are a combination of quantitative, qualitative, and mixed-methods studies that were published between 2014 and 2025.

Results and Discussion

Figure 2 shows that the selection process has been visually captured through a PRISMA flow diagram, giving a clear, auditable summary of the review's methodology.

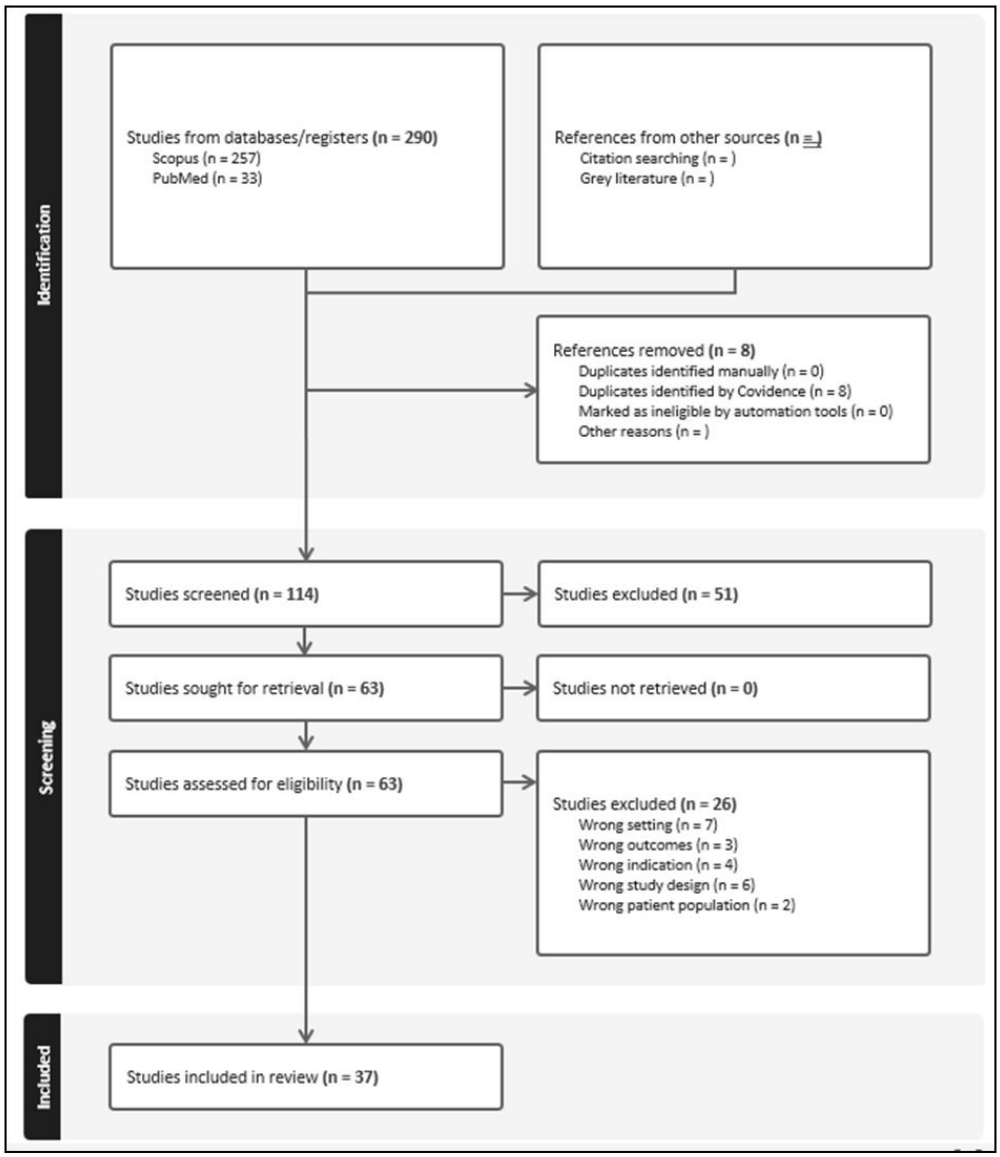

Figure 2. *PRISMA flow diagram.*

Educational equity and resource allocation

Peng et al. (2014) deduces that social change and curriculum reform detrimentally affect teaching quality, particularly in rural China. Additionally, Fan et al. (2023) investigate the effect of education spending on educational inequality across Chinese prefectures, emphasizing the role of fiscal decentralization. The authors argue that regional budget decisions, especially those based on the age of local leaders, play a critical role in determining education funding decisions. Zhang (2024) states that educational investment is highly influenced by Internet exposure, income, and awareness of digital technologies. Wealthier places prioritize income, whereas other regions emphasize internet diversity and participation. Cao et al. (2023) reveal that children of migrant workers face many challenges in education. Typically, barred from attending public schools because of strict local enrolment policies, usually have to depend on private schools. Jia et al. (2014) examines the impact of fiscal decentralization on Chinese local spending policy between 1997 and 2006. It employs a

large fiscal dataset for counties to examine the impact of fiscal decentralization on public spending. Huang et al. (2017) finds that the reform increases per-pupil spending on primary education significantly. Further, Mei et al. (2015) document the policy development process and its challenges and offer insights to guide future reforms and protect rural students' right to education. Liu et al. (2022a) conclude that in Liaoning Province, China, the student distributions shifted more centrally and further from rural to urban schools.

Impact of government policies

Huang (2021) traces 30 years of China's compulsory education expenditure, classifying it into three policymaking periods that reflect shifts in government priorities. Further, urban-rural and inter-regional inequality continues despite a turning point from a focus on raising revenue to ensuring sufficient expenditure. Shao et al. (2019) examines the role of transfer payments, especially in education, China's decentralized system of subsidizing local governments, and promoting educational equity. It points out the necessity of establishing a standardized special transfer payment system to offer equal access to compulsory schooling for poor groups. Rao and Ye (2016) argue that the traditionally urban and rural education systems were balanced, reciprocal. However, modern education in the late Qing Dynasty upset this equilibrium by emphasizing city-focused development. Liu et al. (2025) examines the internationalization efficiency of higher vocational education (HVE) in 30 Chinese provinces from 2020 to 2023. Findings reveal significant efficiency gains, particularly in the eastern and central regions, resulting from technological advancements and improved resource utilization. (Chen et al., 2023a) using the random assignment of students to classrooms, researchers discovered that when students are placed with peers who have cadre parents, their parents become more vigilant about their children's friendships and schoolwork.

Teacher development and leadership and technological integration

Yong and Peng (2025) explores the difficulties and needs for support of primary and secondary school teachers in enhancing their Scholarship of Teaching and Learning (SoTL) in China. Li and He (2023) explores the regional disparities in China that have decreased with blended learning. The model predicts blended learning increases less developed regions' resource supply and hence secondary graduates due to enhanced teaching quality and not heterogeneity in student backgrounds. Xia et al. (2017) examined principals' and teachers' decision-making authority. Chinese principals had lower control over 11 important decisions than their American counterparts, only having similar control over establishing teachers' starting salaries. Duan et al. (2021) indicates improvements in school distribution and resource allocation since 2013, more by population demand. However, significant differences still exist, especially between rural and urban areas.

Social and cultural capital

Qu et al. (2023) analyzes the influence of family cultural capital on first-generation college student's academic achievements in a Chinese research university based on a dataset of 5,524 students. As much as first-generation college students (FGCS) are equally gifted as continuing-generation students in terms of GPA, they are disadvantaged when entering graduate studies. Hallinger and Liu (2016) based on data

obtained from 915 teachers in 31 schools, the study reaffirmed that there are similar processes in urban and rural settings, but rural schools always had weaker leadership, lower teacher confidence, and fewer professional learning activities. Liang and Ma (2021) discusses the distribution of resources for compulsory education in Guangxi Province, China. National and provincial data were used for this analysis by using various techniques like the entropy method, K-means clustering, and Moran's I index. Zhang et al. (2025) explores the impact of urban growth on the quality of obligatory education in Dalian, China, with a specific look at changes from 2016 to 2020. The researchers examined how land development, housing prices, and population density directly impact the quality of schools. Wang and Ying (2015) based on educational fairness and equitable development, the authors set up a theoretical framework to analyze whether school sports resources are evenly distributed. Du and Hu (2008) motivated by economic theory, that is, the production function model, this study explores the relationship between the inputs to education and the output of the student. Xiao and Liu (2014) employing GIS mapping and county-level data, contrasted a poor inland province (Gansu) with a rich coastal province (Jiangsu). Fan et al. (2014) explores the extent to which problem-based learning (PBL) has been employed by Chinese medical schools. The study surveyed and conducted online research with 43 high-ranking, geographically spread-out Chinese medical schools.

Intergenerational effects

Liu et al. (2022b) with national data from China, the authors examine how the nation's Compulsory Education Law influenced schooling and parental health. Ye et al. (2022) examines whether China's mandatory education reforms, expanding free, compulsory schooling, have enhanced physiological health results by adding educational achievement. In a regression discontinuity analysis, the researchers determined that the reforms strongly elevated years of schooling for people in per capita income mid-range communities. Chen et al. (2023a) examines parents' transmission of education to their offspring in China based on micro-level data from the China Family Panel Studies and ordered logit estimation. Once compulsory schooling became a reality, the effect of education of mothers on schooling by children increased remarkably. Lou and Li (2024) based on data from 31 cities and fuzzy-set qualitative comparative analysis in the Technology-Organization-Environment (TOE) framework, the study reveals six key determinants: data sharing, technological infrastructure, administrative focus, government transparency, supportive policies, and urban economic development.

Health implications of education

Zhang et al. (2022) investigates the association between education in school and myopia among Chinese children and adolescents and determines the potential impact of increased exposure to education on eye health. Furthermore, Zhang et al. (2022) explores China's Nutrition Improvement Programme for Rural Compulsory Education Students (NIPRCES), which strives for improved nutrition among rural students through a massive school lunch scheme. Involved over fifteen national committees and ministries and serving an estimated 23 million pupils, meals are served in each participating school daily. Ma (2017) examines if education enhances older parents' health and cognitive performance through their best-educated child. Researchers use

data from the China Health and Retirement Longitudinal Study to quantify the effects of education by the best-educated child on the health of a set of older parents. Yang et al. (2024) developed a model from literature and theoretical knowledge, takes a "trinity" approach, implementation problem, target concept, and performance measure, under the guidance of the "4E" concepts: adequate, equity, efficiency, and effectiveness. Feng et al. (2023) emphasizes the significance of educational research on rural teachers' professional development and rural education development in general. Xie et al. (2021) using China's 1980s compulsory education reform as an instrumental variable, researchers concluded that parents whose children were more educated were more likely to stop smoking.

Assessment of literature

Table 2 shows the quality assessment of 37 studies according to five primary criteria: Eligibility criteria, study selection and identification of studies, data collection, results, and risk of bias. All five are ranked as either High (HH), Medium (MM), or Low (LL), representing how strong and systematic the study in question was on this dimension. Eligibility Criteria consider the level at which participants or subjects were well-defined and chosen. Identification and Selection of Studies examines the suitability of study inclusion. Data Collection addresses the reliability and consistency of methods of data collection. Findings measure the significance and consistency of outcomes, while the Risk of Bias suggests areas of concern in study design.

***Table 2**. Quality assessment of the literature.*

S. No	A	EC	ISS	DC	F	RB
1	Peng et al. (2014)	HH	MM	HH	HH	MM
2	Fan et al. (2023)	HH	HH	HH	HH	MM
3	Zhang (2024)	MM	HH	HH	HH	MM
4	Cao et al. (2023)	MM	MM	MM	HH	HH
5	Jia et al. (2014)	HH	HH	HH	MM	MM
6	Huang et al. (2017)	HH	HH	HH	MM	MM
7	Mei et al. (2015)	HH	MM	MM	MM	HH
8	Liu et al. (2022a)	MM	HH	HH	HH	MM
9	Huang (2021)	HH	HH	HH	HH	MM
10	Shao et al. (2019)	HH	HH	HH	HH	MM
11	Rao and Ye (2016)	HH	MM	MM	MM	HH
12	Liu et al. (2025)	HH	HH	HH	HH	MM
13	Chen et al. (2023a)	MM	HH	HH	HH	MM
14	Yong and Peng (2025)	HH	HH	HH	HH	MM
15	Li and He (2023)	HH	MM	HH	HH	MM
16	Xia et al. (2017)	HH	HH	HH	MM	LL
17	Duan et al. (2021)	MM	MM	HH	MM	MM
18	Qu et al. (2023)	HH	HH	HH	HH	MM
19	Hallinger and Liu (2016)	HH	HH	MM	MM	LL
20	Liang and Ma (2021)	MM	MM	HH	MM	MM
21	Zhang et al. (2025)	HH	HH	MM	MM	HH
22	Wang and Ying (2015)	MM	HH	MM	MM	MM
23	Du and Hu (2008)	MM	MM	HH	HH	HH
24	Xiao and Liu (2014)	HH	HH	MM	MM	MM
25	Fan et al. (2014)	HH	MM	HH	MM	MM
26	Liu et al. (2022b)	HH	MM	HH	HH	LL
27	Ye et al. (2022)	HH	MM	HH	MM	MM
28	Chen et al. (2023b)	MM	HH	MM	MM	MM
29	Lou and Li (2024)	HH	MM	HH	HH	LL
30	Zhang et al. (2022)	HH	MM	MM	LL	HH
31	Zhang et al. (2015)	HH	HH	HH	HH	MM
32	Ma (2017)	HH	HH	HH	HH	LL
33	Yang et al. (2024)	MM	MM	HH	HH	MM
34	Feng et al. (2023)	HH	MM	HH	MM	LL
35	Xie et al. (2021)	HH	MM	HH	HH	LL

Note: A=Authors; EC=Eligibility Criteria; ISS= Identification and Selection of Studies; DC=Data Collection; F=Findings; RB=Risk of Bias; HH=high; MM=medium; LL=low.

The literature reveals important observations related to the educational landscape in China. These observations address equality issues, resource distributions, regional inequality, inter-generational impact, and the dynamic between education and other aspects of life, like health. Educational Equity and Resource Allocation: Urban-Rural Disparities: In different studies (Liu et al., 2025; Zhang et al., 2025; Duan et al., 2021; Wang and Ying, 2015) observed that urban schools are more endowed, while rural schools lack such resources as qualified teachers, school premises, and instructional materials. Geographic Disparities: Liang and Ma (2021) as well as Xiao and Liu (2014) found that coastal and economically more developed regions are well-endowed with better systems, while the poorer and inland regions, especially in the west, lack fewer resources, affecting the quality of education. Government Policies' Impact on Equity: Education Reform and Compulsory Education: Studies like Chen et al. (2023a) and Ye et al. (2022) pointed out that China's reforms, primarily expanding compulsory education, have improved access to education. However, tertiary education continues to show significant disparities concerning socioeconomic status. Free Education Policies: Chen et al. (2023b) argue it has been most successful in promoting educational achievement at the primary level but has failed to eliminate disparities at the post-secondary level. This implies that policies for free education must be supplemented by policies to reduce inequality in post-secondary education.

Intergenerational Effects of Education: Health and Cognitive Outcomes: Liu et al. (2022b), Xie et al. (2021) and Ma (2017) found that more educated children improve their parents' health and mental skills. In the countryside, as the economic and social situations are more complex, parents' health impacts of education are greater. Transmission of Social Capital: The research also indicates that a mother's education exerts a long-term impact on children's school performance and social mobility (Chen et al., 202b). This suggests that improving education for women has significant cascading effects on subsequent generations. Teacher Professional Development and Leadership: Teacher Support and Development: Yong and Peng (2025) as well as Hallinger and Liu (2016) found that Teacher professional identity, peer support systems, and adequate policy systems were found to be critical in improving the quality of education. Leadership in Education: Duan et al. (2021) and Hallinger and Liu (2016) reveal that effective leadership positively influences teacher learning and development, but there are extreme leadership gaps between urban and rural schools. Leadership training and teacher education must be invested in to address these gaps. Technological Integration and Blended Learning: ICT and Blended Learning: According to Li and He (2023) blended learning has been found to enhance educational equality for poorer, less developed regions through access to multimedia materials and internet-based learning platforms. Technological Disparities: Li and He (2023) identifies that equalizing technology access and ICT capacity building among teachers is an essential step towards enhancing equity in education.

Social and Cultural Capital in Education: Family Cultural Capital: Qu et al. (2023) research reveals that although the academic potential of first-generation students is as strong as that of continuing-generation counterparts, their motivational and achievement values in academics rely on the degree of social capital they gain in family and social networks. Cultural Reproduction: Moreover, Chen et al. (2023a) and Qu et al. (2023)

substantiate the cultural reproduction theory, whereby students from families with higher levels of education perform better. This points out that policies aimed at improving education equity must take into consideration cultural as well as social determinants that affect students' educational outcomes. Health Implications of Education: Liu et al. (2022b) and Ye et al. (2022) suggest that the socioeconomic context plays a crucial role in determining the degree to which education policies affect health outcomes. Likewise, Zhang et al. (2015) further correlate educational policy with improved nutrition among students. This also proves that educational policies must concur with other health and social welfare initiatives. School Finance and Fiscal Policies: Zhang et al. (2022) as well as Xiao and Liu (2014) point out the heavy burden that school financing puts on regional disparities in the quality of education. The studies recommend re-examining the allocation of education funding to eliminate such gaps and ensure equity. The literature highlights the importance of compulsory education, reducing inequalities while distributing educational funds, the relation between education and health outcomes, and rural-urban regional disparities. In the future, there is a need for more targeted policies that understand the unique needs of different areas, support teacher training, embrace technology in a meaningful manner, and consider the broader societal impacts of schooling, including intergenerational impacts on health and wellbeing.

Conclusion

This research focuses on the continuous problems in closing regional gaps in educational equality between China's urban and rural areas. Despite all the lackadaisical policy measures in place, including hybrid educational models, school autonomy, and fiscally responsible budgeting, there are enormous disparities in education quality. Among the findings, access to innovative teaching technology such as Information and Communication Technology (ICT) has been identified as having the potential to bridge the gap in learning resources, especially in rural areas. Furthermore, although policies such as compulsory education reforms and attempts to expand school autonomy are essential, they tend to disregard the entrenched socioeconomic and cultural influences that affect the quality of education. These, in most cases, are underdeveloped areas' entrenched barriers that policy reforms and technology cannot easily dispel. The research recommends long-term solutions involving a multi-dimensional response, such as enhancing teacher capacity, school leadership, and equitable resource distribution. There is also a demand for further exploration into the long-term effectiveness of these policies and future efforts to increase community participation and parental engagement to drive educational equality and diminish disparities in China.

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Conflict of interest

The authors confirm that there is no conflict of interest involve with any parties in this research study.

REFERENCES

[1] Bassetto, M., Hall, J. (2024): Discussion of "Fiscal federalism and monetary unions" by Berriel, Gonzalez-Aguado, Kehoe, and Pastorino. – Journal of Monetary Economics 141: 178-183.
[2] Bharathi, N., Mishra, S., Rahman, A. (2024): Status inequality and public goods. – World Development 176: 30p.
[3] Cao, L., Chen, R. (2024): Secondary education (high school) in China. – In Education in China and the World: National Development and Global Benchmarking 73p.
[4] Cao, S., Yu, N., Wu, Y., Wang, Z., Mi, J. (2020): The educational level of rural labor, population urbanization, and sustainable economic growth in China. – Sustainability 12(12): 14p.
[5] Cao, X., Ji, S., Liu, X. (2023): Educational inequity and skill formation differences experienced by floating rural students in the process of urbanization: A case study from a school perspective. – Education Sciences 13(2): 17p.
[6] Chen, L., Chung, B.W., Wang, G. (2023a): Exposure to socially influential peer parents: Evidence from cadre parents in China. – China Economic Review 78: 21p.
[7] Chen, Z., Zhang, Y., Yuan, H. (2023b): Compulsory schooling system and equity in education: An analysis on intergenerational transmission of education. – Heliyon 9(8): 16p.
[8] Du, Y., Hu, Y. (2008): Student academic performance and the allocation of school resources: Results from a survey of junior secondary schools. – Chinese Education and Society 41(5): 8-20.
[9] Duan, H., Yan, H., He, Y., Li, X. (2021): Spatiotemporal analysis of the achievement of equitable quality basic education in Gansu Province, Northwest China. – Sustainability 13(11): 19p.
[10] Fan, A.P.-C., Kosik, R.O., Tsai, T.C.C., Cai, Q., Xu, G.T., Guo, L., Su, T.P., Wang, S.J., Chiu, A.W.H., Chen, Q. (2014): A snapshot of the status of problem-based learning (PBL) in Chinese medical schools. – Medical Teacher 36(7): 615-620.
[11] Fan, J., Huang, J., Sessions, J.G., Ye, J. (2023): Local education expenditures and educational inequality in China. – The Manchester School 91(4): 283-305.
[12] Feng, L., Yuxiang, Y., Lihua, Q. (2023): The structure and evaluation of educational research skills and accomplishments among rural teachers: Data from China. – Frontiers in Psychology 14: 11p.
[13] Hallinger, P., Liu, S. (2016): Leadership and teacher learning in urban and rural schools in China: Meeting the dual challenges of equity and effectiveness. – International Journal of Educational Development 51: 163-173.
[14] Harden-Wolfson, E. (2024): Destruction, construction, reconstitution: The dynamics of structural reform and the creation of new higher education institutions in the former Soviet space. – International Journal of Educational Research 126: 13p.
[15] Heckman, J.J. (2003): China's investment in human capital. – Economic Development and Cultural Change 51(4): 795-822.
[16] Huang, B., Gao, M., Xu, C., Zhu, Y. (2017): The impact of Province-Managing-County fiscal reform on primary education in China. – China Economic Review 45: 45-61.
[17] Huang, B. (2021): Compulsory education finance in China: Adequacy, efficiency, and equity. – China Review 16p .
[18] Jia, J., Guo, Q., Zhang, J. (2014): Fiscal decentralization and local expenditure policy in China. – China Economic Review 28: 107-122.
[19] Li, W.X., He, T.T. (2023): Blended classroom teaching equalizes educational inequality. – Education and Information Technologies 28(4): 4453-4474.
[20] Liang, W., Ma, C. (2021): Modelling the spatial distribution differences of compulsory education resource. – Discrete Dynamics in Nature and Society 8p.

[21] Liu, W., Zhu, Z., Wang, L. (2022a): Spatiotemporal heterogeneity of primary and secondary school student distribution in Liaoning Province, China from 2010 to 2020. – Frontiers in Earth Science 10: 17p.
[22] Liu, X., Zhuang, X., Wang, Y., Li, S., Zhang, H. (2025): Assessing the internationalization efficiency of China's higher vocational education: A DEA-Malmquist and three-stage DEA analysis. – Cogent Education 12(1): 25p.
[23] Liu, Y., Ma, Y., Smith, J.P. (2022b): Adult children's education and older parents' chronic illnesses in aging China. – Demography 59(2): 535-562.
[24] Lou, W., Li, J. (2024): The configuration path of the balanced compulsory education resources supply in the context of equal rights to rent and purchase: Based on the fsQCA analysis of 31 cities in China. – PLOS ONE 19(9): 31p.
[25] Lu, C., Yang, X. (2024): Capital market opening and insider trading profitability: Empirical evidence in the context of "Mainland China–Hong Kong Stock Connect". – Journal of Asian Economics 94: 13p.
[26] Ma, M. (2017): Does children's education matter for parents' health and cognition in old age? Evidence from China. – SSRN Electronic Journal 19p.
[27] Mei, H., Jiang, Q., Xiang, Y., Song, X. (2015): School consolidation: Whither China's rural education? – Asian Social Work and Policy Review 9(2): 138-150.
[28] Peng, W., Lin, S., Liu, X., Chen, B., Bai, X., Wu, C., Zhang, X., Yang, Y., Cui, J., Xu, W., Song, L. (2025): Area-level socioeconomic inequalities in hypertension care cascade in China: A nationwide population-based study based on the ChinaHEART project. – The Lancet Regional Health - Western Pacific 57: 11p.
[29] Peng, W.J., McNess, E., Thomas, S., Wu, X.R., Zhang, C., Li, J.Z., Tian, H.S. (2014): Emerging perceptions of teacher quality and teacher development in China. – International Journal of Educational Development 34: 77-89.
[30] Qu, L., Shao, J., Bai, Y., Liu, H. (2023): Cultural reproduction or cultural mobility: The influence of individual characteristics and student engagement on academic achievement of the first generation college students in Chinese Research University. – International Journal of Educational Research 117: 11p.
[31] Rao, J., Ye, J. (2016): From a virtuous cycle of rural-urban education to urban-oriented rural basic education in China: An explanation of the failure of China's Rural School Mapping Adjustment policy. – Journal of Rural Studies 47: 601-611.
[32] Shao, Y., Liu, W., Ji, M. (2019): Education equity in special education transfer payments to low-income groups. – Revista de Cercetare si Interventie Sociala 65: 163-186.
[33] Sun, Y., You, X. (2023): Do digital inclusive finance, innovation, and entrepreneurship activities stimulate vitality of the urban economy? Empirical evidence from the Yangtze River Delta, China. – Technology in Society 72: 14p.
[34] Sun, Z., Chang, C.-P., Hao, Y. (2017): Erratum to: Fiscal decentralization and China's provincial economic growth: A panel data analysis for China's tax sharing system. – Quality & Quantity 51(5): 2267-2289.
[35] Wang, J., Ying, W.H. (2015): Research on the evaluation system of the balanced development of physical education in China. – International Journal of Simulation: Systems, Science and Technology 16(3B): 3.1-3.6.
[36] Xia, J., Gao, X., Shen, J. (2017): School autonomy: A comparison between China and the United States. – Chinese Education and Society 50(3): 284-305.
[37] Xiang, L., Stillwell, J. (2023): Rural-urban educational inequalities and their spatial variations in China. – Applied Spatial Analysis and Policy 16(2): 873-896.
[38] Xiao, J., Liu, Z. (2014): Inequalities in the financing of compulsory education in China: A comparative study of Gansu and Jiangsu Provinces with spatial analysis. – International Journal of Educational Development 39: 260-273.
[39] Xie, L., Xu, W., Zhou, Y. (2021): Spillover effects of adult children's schooling on parents' smoking cessation: Evidence from China's compulsory schooling reform. – Journal of Epidemiology and Community Health 75(11): 1104-1110.

[40] Yang, B., Tan, Y., Sarker, M.N.I., Deng, W., Yuan, J., Firdaus, R.R. (2024): A model for evaluating the performance of compulsory education inputs in ethnic areas in China. – Heliyon 10(4): 13p.
[41] Yasmeen, R., Hao, G., Yan, H., Shah, W.U.H. (2023): The impact of technological dynamics and fiscal decentralization on forest resource efficiency in China: The mediating role of digital economy. – Forests 14(12): 26p.
[42] Ye, X., Zhu, D., Ding, R., He, P. (2022): The effect of China's compulsory education reforms on physiological health in adulthood: A natural experiment. – Health Policy and Planning 37(3): 376-384.
[43] Yishan, Z., Weisheng, Y., Guangliang, W. (2021): Resources, power, and economic interest distribution in China. – Routledge 312p.
[44] Yong, P., Peng, Y. (2025): Strategies for enhancing the scholarship of teaching and learning among primary and secondary school teachers: A grounded theory analysis. – Frontiers in Education 10: 9p.
[45] Yuan, Y., Xu, G., Xu, P., Li, H., Zhang, L., Nie, Z., Murekezi, P., Liang, X., Yang, Z., Yuan, X. (2024): Aquaculture PPP development in China: Case study from Hani Terrace. – Marine Policy 163: 7p.
[46] Zhang, C., Li, L., Jan, C., Li, X., Qu, J. (2022): Association of school education with eyesight among children and adolescents. – JAMA Network Open 5(4): 16p.
[47] Zhang, F., Hu, X., Tian, Z., Zhang, Q., Ma, G. (2015): Literature research of the Nutrition Improvement Programme for Rural Compulsory Education Students in China. – Public Health Nutrition 18(5): 936-943.
[48] Zhang, Y. (2024): Factors influencing rural educational investment under the digital divide: A QCA study. – Journal of Infrastructure, Policy and Development 8(12): 28p.
[49] Zhang, Z., Luan, W., Tian, C., Su, M. (2025): Impact of urban expansion on school quality in compulsory education: A spatio-temporal study of Dalian, China. – Land 14(2): 20p.