HOW CAN KAZAKHSTAN OVERCOME THE EDUCATIONAL DIVIDE BETWEEN STUDENTS IN RURAL AND URBAN SCHOOLS?

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ABSTRACT OR EXECUTIVE SUMMARY

This thesis explores the rural–urban education gap in Kazakhstan, focusing on disparities in student performance as measured by international assessments such as PISA and TIMSS. While global literature has examined similar divides in various countries, Kazakhstan remains under-researched. Drawing on secondary data and a literature-based policy analysis approach, this study identifies key structural factors contributing to the gap, including resource distribution and access to supplementary education. The thesis also reviews current policy responses and offers comparative insights from other contexts. Findings aim to inform more equitable education reforms and contribute to the academic understanding of spatial inequality in learning outcomes.

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INTRODUCTION

Education is universally recognized as a driver of economic development and social equity, yet access to quality education remains uneven in many countries, with these variations usually depending on geographic and socio-economic context. Among the most widespread types of educational inequality is the rural-urban educational gap, which not only reflects but also exacerbates the existing systemic disparities in society. Despite the government's constitutional commitment to provide free and universal primary and secondary education, Kazakhstan is among many nations facing the problem of uneven distribution of academic progress across its rural and urban areas – students in cities consistently outperform their rural peers on national and international assessments. Given that 40% of the country's school-age population are enrolled in schools in rural areas (The Press Service of the Government of the Republic of Kazakhstan, 2024b), overcoming this divide should be more than a mere developmental goal – it's an issue of fairness, opportunity and the nation's long-term stability.

While the issue of rural-urban educational divide has received a lot of scholarly attention internationally, Kazakhstan's case remains underexplored. Most of the currently available data comes from international standardized assessments like Programme for International Student Assessment (PISA) and Trends in International Mathematics and Science Study (TIMSS). While these studies have shed light on the existing disparities, their implications for internal policy have yet to be examined. Understanding the extent and the root of this discrepancy is essential for designing policies that will allow students of all backgrounds to excel in the classroom and beyond. This thesis aims to answer the question of how Kazakhstan can overcome the educational divide between students in rural and urban schools. It does so in several steps by identifying the extent and the form of the rural-urban achievement gap in Kazakhstan, its underlying causes and the ways policy can address them.

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Besides providing free and mandatory primary and secondary education, the government has introduced the number of elite school networks free of charge as well as annually allocating an increasing number of state grants for those pursuing tertiary education. However, these benefits have proven to not be equally accessible to all. To map the scope of the problem, this thesis uses the results from PISA 2018, TIMSS 2023 and Kazakhstan's Unified National Testing (UNT), the standardized exam for admission to higher education institutions. Bringing together data from those assessments, national reports and scholarly studies of best practices, this thesis adopts a literature-based and policy-oriented approach.

The results of OECD's PISA suggest that the country's 15-year-olds from rural regions are falling more than one schooling year behind their urban peers when it comes to their reading skills (Smanova, 2021). While TIMSS results suggests a narrower and thus, less alarming achievement gap, they as well have shown that rural students consistently demonstrate a lower academic performance in this study, particularly in mathematics (JSC 'National Center for Research and Evaluation of Education "Taldau" named after Akhmet Baytursynuly', 2024). While PISA school questionnaires revealed the existence of school-level differences in resources and teaching quality, the later chapters will explore broader structural differences such as unequal access to private tutoring.

The remainder of this thesis will be structured as follows: chapter 1 provides an overview of the educational system in Kazakhstan, drawing on its key features and policy initiatives in place. Chapter 2 presents a brief review of the existing literature on topic of educational inequality. Next, chapter 3 contextualizes the rural-urban educational gap in Kazakhstan; drawing on data from international and national assessments, this chapter discusses the extent and the roots of the divide. Chapter 4 offers policy recommendations based on international practices and current resources, followed by the concluding chapter that summarizes the key takeaways from my research.

While similar issues have been studied in other Asian countries like China, Kazakhstan remains underexamined despite the wealth of initiatives and institutions in its educational ecosystem. Existing literature or data on Kazakhstan touch on isolated aspects of inequality. This study synthesizes the data from standardized assessments, national reports and academic studies to map the scope and root causes of the problem, highlights patterns that are not apparent when considered in isolation. This thesis also evaluates the impact and limitations of the existing policy responses both in Kazakhstan and abroad. By bringing together fragmented data into a coherent narrative and drafting actionable policy recommendations, this thesis aims to fill the gap both in scholarly attention to the topic and the national policy landscape.

CHAPTER 1 – OVERVIEW OF THE EDUCATIONAL SYSTEM IN KAZAKHSTAN

1.1 Primary and secondary education

As stated in the Law on Education of the Republic of Kazakhstan dated July 27, 2007, children should be admitted to schools from the age of six without the use of tests or other competitive procedures (RSE on the Right of Economic Management 'Institute of Legislation and Legal Information of the Republic of Kazakhstan' of the Ministry of Justice of the Republic of Kazakhstan, n.d.).

School education in Kazakhstan includes primary (grades 1 to 4), basic secondary (grades 5 to 9) and upper secondary education (grades 10 and 11) (NJSC 'Otandastar Qory' of the Republic of Kazakhstan, n.d.), with the primary and basic secondary parts being mandatory. Since the country's undergoing a transformation to a 12-year school system, in schools with 12 years of education, the secondary school ends after 10th grade. Upon completion of the basic secondary school and taking the corresponding exam, the students receive a Certificate of General Secondary Education (AllahMorad & Mackie, 2021). The first and the most popular option is to pursue upper secondary education for two more years, and the second option is to pursue vocational training, which usually lasts 3 to 4 years.

1.2 Higher education

Kazakhstan has become a full member of the Bologna Process / European Higher Education Area since 2010 (European Higher Education Area, n.d.). Today there are 120 higher educational institutions (HEI) in the country catering to 642.5 thousand students, and while tertiary education in Kazakhstan is not mandatory, the government annually allocates a set

number of grants – roughly 40% of those pursuing education in the current academic year are on a state grant (The Press Service of the Government of the Republic of Kazakhstan, 2024c). The number of state grants is increasing each year: in the 2024-2025 academic year, the number of grants rose to 94.2 thousand, up from 88.2 thousand grants awarded in the preceding year.

Kazakhstan has long adopted the centralised system of admission to higher educational institution. Applicants wishing to be considered for admission and a state grant need to take the Unified National Testing (UNT). The test consists of multiple-choice questions and tests students' knowledge on 5 subjects, 3 of which (mathematical literacy, reading literacy, and the history of Kazakhstan) are compulsory and the remaining 2 depend on the degree program that the candidate is applying for. While registering for UNT, the applicants should also list 4 combinations of programmes and institutions in the order of preference. A candidate's admission to a higher educational institution and the allocation of the state grant covering tuition and a monthly stipend is based on applicants' UNT results and how they performed in comparison to other applicants who applied for the same programme and institution (AllahMorad & Mackie, 2021).

1.3 Selective special schools

Besides general schools, there are several selective elite schools, with the most widespread and publicly available being Nazarbayev Intellectual Schools and "Bilim-Innovation" Lyceums, and students in these schools consistently demonstrate a better academic performance.

Nazarbayev Intellectual Schools (NIS) were initiated by the country's first president Nursultan Nazarbayev in 2008 and were assigned a special status in 2011 that would allow them to develop and ratify the academic curricula independently to facilitate the modernization of the secondary education system through a faster implementation and testing of new programs

(Autonomous Educational Organization 'Nazarbayev Intellectual Schools', n.d.-b). Today there are 21 NIS in Kazakhstan, and international assessments have shown a striking discrepancy in learning outcomes of students from NIS and general schools. PISA measures 15-year-olds' capacity to apply their mathematics, science, and reading skills to solve real-life challenges (OECD, n.d.). On PISA administered in 2018, NIS students outperformed others by 124 PISA points, an equivalent of almost three years of schooling (Marteau, 2020). World Bank's former country manager for Kazakhstan Jean-François Marteau (2020) also reported that only 6.2% of NIS students were deemed functionally illiterate, as opposed to 64% of the nationwide sample. Given how functional literacy, according to Marteau, goes beyond memorizing or reciting the information, NIS students not only score higher, but also demonstrate stronger applied skills.

Another popular network of schools for gifted children in Kazakhstan are "Bilim-Innovation" lyceums (BIL). They were first established in 1992 with the support of the presidents of Kazakhstan and Türkiye at the time to promote academic cooperation between these countries; today, there are 32 BIL across the country which recruit students from 7th grade on a competitive basis (Turgumbayeva, 2023). The lyceums sustained a notable track record of exceptional performance in academic Olympiads at the republican and international levels. Kazakhstan's Republican Scientific-Practical Centre "Daryn" (RSPC "Daryn") annually ranks the top 100 schools nationwide based on the number of medals won at Republican Olympiad in general education subjects, and the "Bilim-Innovation" lyceums consistently occupy at least half of the top 10 positions (Boranbay, 2018, 2019; MATOL, 2021; RSPC 'Daryn', 2023, 2024, 2025). Their potential is also recognized globally – over the years, BIL students have earned 4558 medals on international academic Olympiads, and 61 alumni from the class of 2022-23 were admitted to universities ranked in the top 100 by QS World University Rankings (IPF 'Bilim-Innovation', n.d.).

1.4. Supplementary private tutoring

Besides formal education, Kazakhstan shows a growing demand and supply of supplementary private tutoring services. These include (mostly fee-based) informal lessons that students receive outside regular school hours from individual tutors or at tutoring centres. Already back in 2009, more than 50% of high school students reported being enrolled into fee-based supplementary courses (Silova, 2009), and PISA 2012 results were in line with those findings, with 71.2% of 15-year-olds in Kazakhstan at the time receiving private tutoring on a paid or free basis (Entrich, 2020). Findings from more recent studies suggest that the enrolment rate has increased even further since the COVID-19 pandemic. In the country's capital Astana 73% of students in their final year of school reported their participation in supplementary fee-based private tutoring courses within the 12 months prior to the study (Hajar & Karakus, 2023), while in Almaty, the country's biggest city, the figure reached 81% (Hajar & Karakus, 2024). Surveys and interviews conducted by Hajar & Karakus suggest that students enrol into supplementary classes to prepare for UNT (the university entrance exam) or compensate their perceived gaps in understanding of the school curriculum. Indeed, proliferation of private tutoring, also known as "shadow education", is known as one of the unintended consequences of high-stake examination such as UNT in Kazakhstan (Yung, 2021). Although data on the current market size of the private tutoring courses in Kazakhstan is not available, the earlier estimates were above US$ 20 million (Kalikova & Rakhimzhanova, 2009). Given the rise in student participation since then, it is not unreasonable to assume that the market has grown by at least 40%, even before adjusting for domestic inflation and the devaluation of Kazakhstani tenge against the US dollar.

CHAPTER 2 - LITERATURE REVIEW

Globally, each additional year of schooling is found to increase an average individual's expected earnings by 5-8% annually, with substantially higher returns in some regions of the world (Patrinos, 2016). Thus, given its promises of national development and economic prosperity, countries across the world aim to provide access to quality education; however, the rural-urban educational gap is well documented internationally. Studies suggesting that learners from schools in urban areas consistently outperform their rural peers, starting with an extensive divide in the rural and urban populations' rate of completion of secondary education. In low-income countries, high school graduates from urban settings outnumber their rural peers by 288%, and while the difference in more developed countries is less pressing, the numbers there are also far from negligible: 62% in lower middle-income countries, 46% in upper middle-income countries and 18% in high-income countries (Lu et al., 2021).

Difference in access to quality education has far-reaching consequences and may also shape students' ambitions later in life, including their decisions to remain in the education system. The results of PISA 2015 suggest that among OECD countries, around half of the urban students were expected to obtain at least an undergraduate degree, in contrast to only 30% of the rural students (Echazarra & Radinger, 2019). Indeed, Chankseliani et. al. (2020) note that "rural school graduates can have distorted assumptions on the affordability of higher education, are uncomfortable to try unfamiliar experiences of higher education, and develop desire to earn wages immediately after school completion."

While rural-urban educational divide is globally recognised, there is a gap in documenting and analysing the cases of countries in Central Asia including Kazakhstan. This thesis aims to fill this gap by mapping the scope and the roots of, and potential remedies to the gap in achievements of rural and urban students in Kazakhstan.

CHAPTER 3 – UNDERSTANDING THE ACHIEVEMENT GAP

3.1. The scope and the form of the gap

3.1.1. Difference in performance on international standardized assessments

Despite the provision of free and compulsory primary and secondary education in Kazakhstan, one can observe a clear disparity in educational outcomes of rural and urban students. This imbalance is well documented in international standardized assessments of student performance. Evidence from TIMSS shows that the imbalance can emerge as early as primary school. TIMSS, which assesses 4th and 8th grade students' understanding of concepts in mathematics and science, has been administered by the International Association for the Evaluation of Educational Achievement (IEA) every four years since 1995 (IEA, n.d.), thus providing insights into patterns in performance over time. In their discussion of Kazakhstan's results at TIMSS 2023, the National Centre for Research and Evaluation of Education "Taldau" mentioned that students from urban schools consistently outperform their rural peers. Namely, they noted a 27-point difference in the results of 4th grade students and a 17-point difference in the results of 8th grade students in mathematics, both in favour of those residing in cities. The smaller gap among 8th graders suggests that there might be a possible convergence as students progress through the curriculum. In addition, the gap has narrowed over time – the difference in 8th grade rural and urban students' mathematics scores decreased by 4 points since 2019 and the variance in their science scores decreased by 3 points. Organisers rightfully claim that "assessing fourth grade students can provide an early warning for necessary curricular reforms" (IEA, n.d.), and the trends we observe might be indicative of the effectiveness of the policies that might have been suggested by IEA.

As optimistic as the trend in TIMSS results might be, other reputable assessments confirm this divide. Indeed, PISA 2018 results might be even more alarming. A comparative analysis of students' results by school location suggests that rural students are at least a year behind their urban peers (Smanova, 2021). To be more precise, the average reading score of students from cities was 425.42, whereas the pupils from villages scored an average of 326.89, with this 62-PISA-point difference in reading skills being an equivalent of more than one year of schooling. Additionally, while 1.76% of urban students were among top performers in reading across the nation (denoted as Proficiency levels 5 or 6), only 0.04% of rural students made it to this category.

Although TIMSS and PISA suggest varying levels of severity in educational inequality, some differences in the design and focus of these assessments can lead to the perception that PISA offers a more reflective view of the situation in Kazakhstan. To elaborate, PISA measures a wider set of skills by including reading besides science and mathematics. These studies also assess student knowledge from different angles: while TIMSS focuses on evaluating students' command and application of the curriculum, PISA measures their ability to apply those skills to solve real-world problems. Both assessments include multiple choice and open response questions; however, PISA also includes performance-based tasks (AQi, 2024). While TIMSS offers more recent data on Kazakhstan, PISA covered a larger national sample. Namely, PISA 2018 involved 19507 15-year-old students from 616 schools in Kazakhstan (Smanova, 2021), according to appendix B of the official TIMSS 2023 report, Kazakhstan's sample included 6508 4th grade students and 6362 8th grade students (von Davier et al., 2024). Considering these differences in scope, methodology and sample size, it is reasonable to view PISA results as more precise and representative of the educational context in Kazakhstan.

3.1.2. Differences in higher education aspirations and enrolment rate

The gap in academic performance at a school level translates into difference in how rural and urban school graduates perform at Kazakhstan's UNT, the examination for getting into higher educational institutions. It was found that on a test with the highest score of 140, "32% of all urban applicants and 22% of all rural applicants achieve the scores 100 to 140; in contrast, 78% of all rural applicants and 68% of all urban applicants score between 0 and 99" (Chankseliani et al., 2020), suggesting that the academic preparedness of the applicants from rural and urban schools for higher education is on different levels. As a result, only 24% of the graduates from rural areas obtained state grants in 2019 as opposed to 54% of the applicants from the capital, putting a strain on low-income households in rural areas. Yet the discrepancy was observed not only in their test scores but also in their higher education aspirations – rural school graduates, while composing half of the graduating class of 2019, composed only 46% of the applicants who took UNT.

3.2. Root causes

3.2.1. Difference in infrastructure and material resources

Potentially the biggest underlying cause of the gap in academic performance in Kazakhstan is a serious deficit and a low quality of educational infrastructure in rural and remote areas. On the government session that took place on December 3, 2024, it was reported that 76% of school buildings in emergency conditions were located in rural areas (The Press Service of the Government of the Republic of Kazakhstan, 2024b), making rural kids are disproportionately more exposed to the negative effects of potential emergencies or severe weather conditions. At the same meeting, it was also identified that almost three-fifth of school buildings operating on three shifts are in rural areas, suggesting poor planning to meet

educational demand in those regions. Unsurprisingly, the questionnaires filled out by school principals for PISA 2018 confirmed the disparity in the technological capacity of schools. The mean of the reported number of computers available to each 15-year-old student in cities was 1.3, with 90% of them connected to the internet (Smanova, 2021). In contrast, an average 15-year-old student enrolled in a school in the village could access 0.8 computers on average, with only 60% of them connected to the internet. These numbers show that rural schools are under resourced and are failing to cater to the technological needs of at least one-fifth of their students.

3.2.2. Difference in teaching quality

Another key factor leading to inequitable educational outcomes in Kazakhstan is the difference in the level of professionalism of teachers employed in schools in different areas. School principals' responses to the school questionnaires conducted for PISA 2018 showed that the teaching staff in schools in cities were more likely to hold a graduate degree and to have had attended a programme of professional development than their colleagues in towns and villages (Smanova, 2021). Citing Kopeyeva (2019), Smanova (2021) attributed this difference in qualifications through less rigorous recruitment and a lower attractiveness of working in rural areas to teachers.

3.2.3. Difference in the rate of enrolment in supplementary private tutoring

Though variance in the availability and the quality of resources available to schools lead to unequal educational outcomes, they seem to not account for the full extent of the observed discrepancy. For instance, Smanova (2021) conducted a mediation analysis of human and material resources that were available to the schools that participated in PISA 2018 (constructed based on principals' responses to the PISA school questionnaire) to identify whether school resources can contribute to bridging the rural-urban educational divide. She found that "the

strength of the association between the school location and reading performance remained statistically significant even after adding material and human resources".

This implies that other, less apparent underlying factors such as social capital and institutional culture might also play a big role and thus need to be addressed. In case of Kazakhstan, widespread enrolment in private tutoring might contribute to the gap in achievement, given a different rate of using private tutoring services already in the earlier years of their formal education. For instance, in a study surveying 6th grade students from 7 schools in 3 rural regions of Kazakhstan, 43.5% (288) of 662 students indicated having participated in private fee-based tutoring within 12 months prior to the study (Hajar & Karakus, 2025), whereas their study of 6th grade students from Astana back in 2022 showed that a striking 79% (316) of 406 students in the capital shared that they received private tutoring. This difference highlights how some deeper structural inequalities, including disparities in parents' earnings and the availability of qualified tutors might put rural learners in a disadvantaged position already by the 6th grade.

3.3. Efforts to promote educational equity and their varying impact

3.3.1. Government-led school infrastructure upgrades

Enhancing the capacity of rural schools is an important policy objective for Kazakhstan and the main approach the government is taking in this direction is the construction and renovation of school buildings. At the end of 2024, the country's Prime Minister Olzhas Bektenov announced that 180 new schools are to be built by 2027 in rural areas as part of the implementation of the Rural Development Concept (The Press Service of the Government of the Republic of Kazakhstan, 2024b). The Prime Minister also reported that 2500 schools in villages had been modernised and 4 thousand specifically equipped subject classrooms were

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purchased for rural schools were purchased over the previous 3 years, suggesting that the efforts to improve rural schools' infrastructure are already actively in place.

3.3.2. Measures to attract qualified teachers to rural areas

The government offers substantial financial incentives to encourage teachers to work in rural schools. Namely, teachers in rural areas receive a 25% higher wage than those in urban schools (Tengrinews.kz, 2025). To attract highly qualified professionals in key sectors, including teachers, to rural areas, the government has introduced a special programme called "With a Diploma to Rural Areas" already back in 2009. The participants of the programme are entitled to receive not only a one-time allowance of 100 monthly calculation indices (MCI), equivalent to approximately US$ 573 as of June 2025, but also low-interest loans for the purchase and construction of housing (Gov.kz, n.d.). However, despite higher renumeration and additional potential benefits, average qualifications of teachers in rural schools remain significantly lower than that of their colleagues in cities (Smanova, 2021), suggesting limited success in attracting and retaining highly qualified teachers to rural areas.

Another important actor aiming to attract higher qualified teachers to rural areas is the "Teach for Qazaqstan" Public Fund. The fund was inspired by the global "Teach for All" that aims to provide educational inequality and became one of its 64 official partners in May 2023 (Teach for Qazaqstan, n.d.). The fund provides courses for pedagogical retraining and teaching practice to selected professionals (not teachers) and then places them in schools in remote regions of Kazakhstan for two-year teaching assignments. Given the recent introduction of this initiative, no data on its intermediate, let alone long-term, impact is available yet. Nor is there information on whether it offers specific incentives to applicants or on its progress in attracting the right type or intended number of candidates. However, given that participation is based on individual initiative, this program might help attract those candidates with higher intrinsic motivation. Additionally, given the fund's collaboration with a global network, and its model

of equipping individuals with field experience through pedagogical training, the initiative shows promise. Still, the success of the program depends on an active and effective use of information channels, as it determines the chances of enhancing awareness about the recruitment and thus attract high-quality candidates to the program.

3.3.3. Rural quotas

The main way through which the current system strives to provide equitable opportunities is through the allocation of rural quotas in selective schools. Out of 17,884 students enrolled into NIS across Kazakhstan as of the beginning of the 2024-2025 academic year, 11%(1,891) were from rural areas, small towns and regional centres, and 38.4% (5,895) of them were from socially vulnerable groups of the population (Autonomous Educational Organization 'Nazarbayev Intellectual Schools', n.d.-a). In his interview to Forbes Kazakhstan, the president of the International Public Fund "Bilim-Innovation" Darkhan Ote mentioned that with a purpose of making quality education accessible to everyone, the lyceums have a 10% quota allocated for children from rural areas and a 15% quota for children from low-income families (Turgumbayeva, 2023).

However, despite selective schools' attempts to recruit learners from different backgrounds, students from rural school have a much lower application rate, potentially due to lack of awareness and practical considerations. When asked about their reasons for enrolling into supplementary private classes, 30% of primary school students in Astana, the country's capital, explicitly mentioned the NIS entrance test as their goal (Hajar, 2024), compared to only 6.6% of 6th graders in rural areas said so (Hajar & Karakus, 2025). Additionally, when Hajar & Karakus (2025) interviewed 42 randomly selected 6th grade rural students from the sample, only 3 of them openly stated their intention to take the NIS entrance exam, and some 8 interviewees even shared that they have heard little to no about these intellectual schools. Those who

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demonstrated their reluctance to apply to NIS connected it with these schools' remoteness from where they reside and the difficulty or impossibility of daily commute.

The efforts to promote educational equity comes not only from the government but also from notable entrepreneurs in Kazakhstan. Among them is iQanat High School of Burabay – a private boarding school with a focus on preparation for higher education founded by a Kazakh businessman and philanthropist Aidyn Rakhimbayev. The school designed for 300 students opened its doors in 2020, and annually provides grants to 100 8th grade students from rural regions of the country that obtain the highest scores on the iQanat Olympiad ('iQanat' Educational Fund, n.d.-a).

While rural quotas (regardless of their number) do help their recipients succeed by leaving disadvantaged areas, they don't target the roots of the problems faced by the communities those students leave behind. The fund also offers all the finalists of the Olympiad post-Olympiad support, including career guidance, mentoring, participation in boot camp and leadership programs, as well as English and IT skills lessons free of charge ('iQanat' Educational Fund, n.d.-b), thus empowering rural students and addressing the systemic inequality.

CHAPTER 4 - POLICY RECOMMENDATIONS

There are a few policy options that Kazakhstan can adopt to tame the problem of rural-urban educational inequality.

4.1. Subsidizing Private Tutoring for Rural Students

Given how the private tutoring marketplace is one of the key factors contributing to the current divide, Kazakhstan could subsidize these courses for rural students, following the example of the governments of Australia and Japan that provided vouchers for private tutoring courses to low-performing students (Hajar & Karakus, 2023). Given the estimated market size of US$ 28 million (see chapter 1), and assuming rural students could occupy one-third of the market (given the two times lower participation rate captured in chapter 3), this initiative would cost Kazakhstan roughly US$ 9.3 million, which could be implemented in a span of 3 to 5 years. If this intervention will show an improvement in rural students' performance on PISA by the next time the assessment is administered, the return in the form of increased access to higher education as well as higher future earnings will substantially exceed the investment.

4.2. Scaling Up Digital Classrooms in Rural Schools

Other countries', in particular, China's progress towards overcoming the rural-urban educational divide was mainly based on the provision of technological equipment with the recordings of lessons from the country's best-performing teachers. The program had a huge success in China – with the students who were exposed to the policy earning, on average, 59% more than their peers from the same county who were not exposed to the policy (Lu et al., 2021). Thus, Kazakhstan should continue and upscale its current initiatives to renovate rural school buildings and supply them with digital classrooms. Given how 'Kazakhstan Khalkyna'

foundation allocated US\$ 3.5 million on renovating small schools in one of the regions (The Press Service of the Government of the Republic of Kazakhstan, 2024b), covering all 17 regions of the country would require over US\$ 60 million. Given that this investment is expected to lead not only to more equitable educational outcomes but also to better labour market outcomes in terms of renumeration, investing in digital classrooms has very high long-term payoff.

4.3. Expanding the NIS-based Support School Model

Lastly, Kazakhstan could use its current resources and progress towards equality through the transfer of experience from best-performing schools. Last year the government announced the plan to create around 200 support schools based on NIS system that would help retraining teachers, implementing new teaching methods and an internal system of assessment of students' performance (The Press Service of the Government of the Republic of Kazakhstan, 2024a). At that time 85 such schools were already operating in that mode and were reported to have exhibited increased efficiency. For instance, schools in Atyrau region showed a 23-point increase in the results of PISA. The governmental audit has shown that over the period of 2019-2023, US\$ 43 million were spent on a transfer of experience to other schools (Tengrinews.kz, 2024). Since the full number of schools and teachers covered by this budget was not provided, and assuming that all this money was spent to cater to the educational needs of 85 schools mentioned by the government's press service, then the cost of transfer per school would amount to a little bit above US\$ 505 thousand. Taking into account that building a fully-equipped school catering to 2000 students following the NIS model is estimated to cost around US\$ 15 million (Forbes.kz, 2021), the transfer of experience (with proven success at initial stages) is a cost-saving option that would require 30 times lower expenses per school while still contributing to academic progress. This will also ensure the retraining of teachers who are already working in rural areas, thus eliminating the need for massive teacher relocation.

CONCLUSION

This thesis highlights the persistent and multifaceted nature of the rural–urban education gap in Kazakhstan. By examining international assessment data and current policy efforts, it underscores the need for more targeted, equity-focused reforms. Addressing this divide is essential not only for improving individual educational outcomes but also for fostering inclusive national development.

Current divide is rooted in an imbalance in material resources and infrastructure available to schools, as well as the failed attempts to attract highly qualified teachers to schools and varying levels of participation in private tutoring programs. While the government incentivizes teachers to work in rural schools by providing higher renumeration and lower interest rates for mortgage, the difference in the level of teachers in villages and cities remain. Current attempts to make high quality education more accessible to students from rural areas fall short in addressing the systemic challenges and only provide opportunities to a select few high-performing students from rural regions. Thus, Kazakhstan should strive to make its school system less segregated. To achieve this goal, the government should heavily invest in providing modern infrastructure to rural schools, (partially) covering rural students' expenses on private tutoring courses, and transferring the best practice from leading schools like NIS, with the last lowering the need for special programs to attract highly qualified teachers to rural schools.

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