

Remittance-Driven Educational Choices: Trends in Nepal's Private School Enrollment

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Abstract

The interplay between remittances, economic growth, and educational preferences has significantly shaped Nepal's private school enrollments over the last two decades. Remittances, a critical source of household income, have driven substantial changes in education accessibility, particularly in private schooling. This study investigates the relationship between remittance inflows, per capita GDP, and private school enrollments, emphasizing the socioeconomic dynamics and policy implications. This research employs a descriptive and analytical design, utilizing secondary data from 2000 to 2022. Key datasets include private school enrollments (Ministry of Finance), remittance inflows (Nepal Rastra Bank), per capita GDP (World Bank), and population growth rates. Statistical analyses involve trend evaluations, descriptive statistics, and correlation analysis to assess relationships among these variables. The findings reveal a strong positive correlation between remittances and private school enrollments (0.91) and between remittances and per capita GDP (0.97). Private school enrollments nearly tripled, increasing from 11.23% of total enrollments in 2000 to 29.67% in 2022. Rising remittances and GDP facilitated increased educational investments, particularly in private schools, but also highlighted regional and socioeconomic disparities. Population growth rates showed limited direct influence on enrollment trends. The study underscores the critical role of remittance-driven economic growth in shaping educational preferences while raising concerns about inequalities in access. Targeted policies to enhance public education, provide financial aid for disadvantaged families, and improve rural education infrastructure are essential to ensure equitable educational opportunities. The study's findings align with prior research while offering a context-specific focus on Nepal's education sector.

Keywords: Foreign employment, Remittances, School enrollment, Education, Socio-economic dynamics

Introduction

Extensive research has been conducted by scholars on the relationship between remittances and school enrollment in Nepal. Monetary transfers from foreigners to their home countries are referred to as remittances. These transfers can exert both positive and negative influences on a nation's economy and society, including its educational system. Remittances can enhance both household income and educational investment. Remittances can provide valuable support to families in covering educational expenses, potentially resulting in higher school attendance rates. Children may experience reduced pressure to engage in the labor force and contribute financially in households where remittances play a substantial role in income.

As a result, this may enhance the capacity of children to focus on their education rather than engage in manual labor. By utilizing remittances, families can manage the expenses associated with school transportation and other supplementary costs, leading to enhanced educational accessibility. The importance of this is particularly pronounced in rural regions, where educational institutions are often situated at a significant distance from residential areas. While this is true, the distribution of remittance income can differ from one household or community to another. The unequal distribution of remittances to specific groups or regions is correlated with the presence of income inequality and educational disparities.

An overdependence on remittances may hinder investment in education and other fields. As a result of a sudden decline in remittance inflows, households reliant on these funds may encounter challenges in financing their children's education. While remittances may lead to an increase in enrollment, they are unlikely to enhance the quality of education. Several factors influence the effectiveness of education. The factors encompass the caliber of educators, the infrastructure, and the advancement of the curriculum.

Remittances play a significant role in enhancing household income and lowering economic barriers to education, thereby contributing to a rise in student enrollment in schools across Nepal. Policymakers must consider socioeconomic factors and implement sustainable strategies to enhance the quality of education and increase accessibility. This study aims to explore the complex relationship between remittances and school enrollment in Nepal, with the objective of clarifying the potential causal mechanisms and the socio-economic implications associated with this connection.

Literature Review

The connection between migrant remittances and school attendance is complex, requiring a detailed analysis of the migration decisions made by household members in conjunction with the family's educational choices. The rise can be linked to an expanding demographic of low-income elementary school students. The stratified panel provides enhanced reliability in comparison to annual cross-sectional estimates, as it is less susceptible to inadequate instruments and overlooked patterns.

Bourlès et al. (2012) proposed that the inclusion of child income remittances as a form of insurance asset could impact disease prevalence and educational investment. Multilevel analysis enabled the integration of data hierarchies. The findings indicate that the prevalence of HIV in the community does not significantly affect school enrollment rates. Goudar and Skaff (2023) performed an analysis examining the declining enrollment rates of female students relative to their male counterparts, particularly in low-income countries.

The researchers conducted an analysis of various socio-economic variables to understand the global decline in female secondary school enrollment. The analysis included per capita GDP, government education expenditure as a percentage of GDP, and education expenditure per capita in US dollars. The evaluation of the four variables in relation to female enrollment in secondary schools was conducted using scatter plots, box plots, regression analysis, and correlation analysis.

The research carried out by Rehman et al. (2023) examined the relationship between school attendance, the completion of secondary education, and gender enrollment. The examination of descriptive statistics concentrated on geographic trends associated with school enrollment and dropout rates. The analysis employs data obtained from the Pakistan Bureau of Statistics, PSLM (2019-20), in conjunction with 2017 educational statistics for the provinces of Punjab, Sindh, Khyber Pakhtunkhwa, and Balochistan. This research elucidates the complex differences in gender education in Pakistan.

Hu and Ortagus (2022) conducted an analysis of dual enrollment (DE) programs, which enable high school students to enroll in college courses and earn college credit. Prior research has demonstrated a correlation between digital engagement (DE) and student academic performance. The results include preparedness for college, academic achievement, dedication to learning, and the completion of degrees. The financial implications of DE courses have not been thoroughly examined in higher education research, even though they play a vital role in discussions about improving accessibility in US higher education.

Al-Islam et al. (2022) carried out a study investigating the influence of remittances on school enrollment in Bangladesh. The researchers employed data from the 2016 cross-sectional Household Income and Expenditure Survey. The study revealed that families with two or three children are more likely to enroll their children in educational institutions than those with one or four children. The study suggested that the government may evaluate the potential for additional incentives for children from families receiving remittances, in conjunction with the current support offered to migrant workers.

Roy et al. (2023) performed an analysis of special education outcomes for public school students covering the years 2011-12 to 2019-20. The study revealed no correlation between the blood lead levels of children in Flint and their involvement in special education programs. The findings demonstrate enhanced media focus on complex issues like the Flint Water Crisis. Shekhar et al. (2023) examined the relationship between the GPA of engineering students and their participation in engineering education programs to fill a gap in the current literature. This study highlights significant implications and lays groundwork for future research in the relatively unexplored field of entrepreneurship education within engineering education.

Forster et al. (2020) conducted an analysis of the relationship between the educational systems of the United States and Germany, emphasizing their unique institutional frameworks. The information regarding Germany is obtained from the National Educational Panel Study. The gradient of socioeconomic status (SES) manifestation demonstrates consistency across different institutional environments. Ultimately, expectations significantly influence the effect of socioeconomic status (SES) on attaining optimal outcomes.

Hanif and Arshed (2016) illustrated the importance of human capital in this production function. This study assessed the human capital of SAARC by utilizing three different proxies. The aim was to evaluate if a heightened proxy significantly influences the advancement of these nations. The results from the dynamic panel data model demonstrate that involvement in tertiary education exerts a greater influence on economic growth than primary and secondary education.

Ramsdal and Wynn (2022) performed an analysis of the findings through the lens of attachment theory, underpinned by their extensive research. Building strong relationships between alumni and their educators, as well as other supportive adults, seems to be a crucial first step in tackling their challenges. These relationships can provide essential social support and motivate students to attain academic success.

Bowman et al. (2024) conducted a study examining the influence of charter school location and policies on the placement of students with exceptional special needs. Different regions within states displayed varying ratios of independent schools, as well as specific school placement rates. The percentage of independent schools in suburban areas differed markedly from the overall rate. A select group of independent charter schools offered special education services. This study emphasizes the importance of research and its practical application.

Nguyen et al. (2021) examined the correlation between neighborhood deprivation and childhood obesity, considering the socioeconomic position (SEP) of children. The research examined the influence of neighborhood deprivation on the educational outcomes of parents. The correlation demonstrated a stronger association among parents with higher education levels in comparison to those with medium or low education ($p < .001$). Studies show that children from low-income families with limited educational opportunities face an increased risk of obesity.

Dietz et al. (2015) performed an analysis of migration and children's education in Tajikistan, a country encountering substantial economic difficulties and considerable external reliance. The movement of non-parental family members, such as siblings, can adversely affect school attendance, especially among older children and those from families with lower educational levels.

Yousaf et al. (2023) conducted an investigation into the relationship among remittances, poverty, and economic growth within the GCC region. The study employed panel data spanning the years 2000 to 2021. The techniques utilized for data analysis included panel unit root tests, ARDL models, and Granger causality tests. Remittances, labor, gross fixed capital formation, and poverty underwent considerable effects. This study illustrates that remittances promote economic growth in Gulf Cooperation Council (GCC) nations, while poverty obstructs growth.

Khan and Khan (2016) examined the influence of remittances on school attendance and academic performance in Pakistani children aged 4 to 15. Remittances play a significant role in addressing regional and gender disparities in children's school attendance in Pakistan. The IV censored ordered probit model is utilized to assess the influence of remittances on children's academic performance. The expected outcome was primarily unfavorable and statistically significant, leading to a reduced probability of grade progression.

Joseph and Wodon (2014) performed an analysis regarding the influence of remittances on poverty and human development indicators in Yemen, utilizing matching methods, a recent nationally representative household survey, and weather data. The research demonstrates that remittances, especially international ones that enhance recipients' financial resources, have a substantial impact on various indicators. Remittances play a crucial role in addressing poverty and malnutrition in areas facing difficult climatic conditions, including high temperatures or low rainfall.

Murakami (2019) conducted an analysis of the effects of migration and remittances on children across different households, employing counterfactual scenarios for this study. The results demonstrate that the inclusion of migrant household members is associated with a 10% decrease in children's school

attendance. The impact of parental migration is considerably greater than that of other household members. Remittances alleviate the negative effects of migration by 1-3 percentage points.

Stanley and Fleming (2019) conducted a study examining the influence of both household and non-household remittances on the school attendance of children in Nepal. The examination of migration and remittances encompassed a comprehensive assessment of their related benefits and drawbacks. Research demonstrates that remittances contribute to a 2% rise in children's school enrollment. This study advises that policymakers promote domestic migration to improve the connection between remittance senders and receivers, while also considering the effects on families.

Gyimah-Brempong and Asiedu (2015) performed an analysis regarding the influence of remittances on educational financing in Ghana. Remittances affect the likelihood of families enrolling their children in primary and secondary education, underscoring a beneficial effect on educational advancement. The study found that international remittances play a significant role in promoting sustained economic growth and reducing poverty by enhancing human capital. The results demonstrated consistency despite fluctuations in sampling or estimation techniques.

Sami and El-Aziz (2018) examined the influence of remittances on educational attainment, in contrast to previous research that focused on school attendance. This study employs the Egypt Labor Market Panel Survey (ELMPS, 2012), which provides extensive socioeconomic and migration data on households. The findings demonstrate that remittances assist university students in overcoming financial difficulties and improving their educational experience.

Nguyen and Purnamasari (2011) investigated the effects of female migration on child outcomes and labor supply in the originating households. The evaluation of migration and remittance income is conducted through the examination of historical migration networks. Migration often results in a reduction in the hours worked by local employees. The effect on households with female migrants is negligible. The expected effects of migration and remittances on school enrollment do not show statistical significance.

Bhandari (2020) evaluated educational quality using a range of indicators, such as private school enrollment rates, tutor involvement, expenditures on tutoring services, and tuition fees. The voluntary migration of households and the decisions made by migrants to remit funds present challenges in precisely evaluating the effects of remittances on these variables. The influence of remittances on private and school tuition appears to be somewhat constrained regarding positive outcomes.

The review highlights the growing importance of remittances in Nepal, where they account for a large portion of GDP and provide income for many households. Capital flows heavily influence household decisions, especially education. Private schools in Nepal are considered better than public schools, making them a popular choice for wealthy families. The review shows that remittances increase private school enrollment in Nepal due to household financial capacity and changing educational preferences. This trend requires careful consideration of equity, sustainability, and public education's future. Focused policies that guarantee inclusive education for all Nepalese children are needed to address these issues.

Methods

Study Design and Data Sources

This study employs a descriptive and analytical research design to examine the relationship between remittance inflows, economic growth, and private school enrollments in Nepal over a 23-year period (2000–2022). The data used in this study is entirely secondary and has been sourced from credible institutional publications and surveys. The primary datasets include:

- i. Private School Enrollment Data:** Obtained from the multiple editions of the Economic Survey released by the Ministry of Finance of Nepal, covering total enrollments and private school enrollments in basic education.
- ii. Remittance Data:** Sourced from the Quarterly Economic Bulletin 2024 by Nepal Rastra Bank, detailing annual remittance inflows in million Nepalese Rupees.
- iii. Per Capita GDP (in USD):** Also retrieved from the Quarterly Economic Bulletin for the corresponding years, reflecting Nepal's economic growth.
- iv. Population Growth Rates:** Collected from the World Bank (2024), providing annual population growth rates to contextualize demographic changes.

Data Analysis Framework

The analysis focuses on three core components:

- i. Trend Analysis:** Graphical representations and discussions of trends in private school enrollments, remittance inflows, and per capita GDP to identify growth patterns and significant shifts over the observed period.
- ii. Descriptive Statistics:** Statistical summaries, including mean, median, standard deviation, skewness, and kurtosis, to describe the central tendencies and variability in the data.
- iii. Correlation Analysis:** A correlation matrix quantifies the strength and direction of relationships between private school enrollments, remittances, per capita GDP, and population growth rates.

Analytical Procedures

Enrollment Trends in Private Schools:

- i.** Private school enrollments were analyzed to measure changes in the proportion of basic-level students attending private institutions. The proportion of enrollments was calculated as a percentage of total basic-level enrollments.
- ii.** The trend analysis included visualizations (e.g., line graphs) to highlight periods of accelerated growth in private school enrollments.

Remittance Trends

- i.** Remittance inflows were analyzed for growth over time. Key periods of acceleration were identified and linked to changes in household income and educational investments.
- ii.** A line graph was created to depict remittance inflows, showing exponential growth from Rs. 47,216.1 million in 2000 to Rs. 1,220,560 million in 2022.

Per Capita GDP Trends

- i. The trajectory of Nepal's per capita GDP was analyzed to assess its role in enabling families to invest in private education. The analysis included discussions on economic stability and resilience, even during periods of global challenges such as the COVID-19 pandemic.
- ii. A steady upward trajectory in per capita GDP was observed, increasing from USD 259 in 2000 to USD 1,399 in 2022.

Descriptive Statistics

- i. Summary statistics provided insights into the variability and distribution of enrollments, remittances, GDP, and population growth rates. For example, private school enrollments averaged 903,732.10 students per year, with a maximum of 1,877,680 in 2018 and a minimum of 350,135 in 2001. Similarly, remittances exhibited a large variation, with a standard deviation of Rs. 371,849.90 million, reflecting rapid growth over time.
- ii. Skewness and kurtosis indicated the presence of slightly positive skews and normal distributions in key variables, such as enrollments (skewness: 0.67) and remittances (skewness: 0.48).

Correlation Analysis

- i. A correlation matrix was constructed to explore relationships between variables. Results revealed strong positive correlations between private school enrollments and remittances (0.91) as well as between enrollments and per capita GDP (0.91). This highlights the critical role of economic factors in shaping educational decisions.
- ii. The correlation between remittances and GDP was particularly high (0.97), underscoring the dependence of economic growth on international labor migration and remittance inflows. However, population growth rate showed weaker correlations with enrollments (0.13), remittances (0.21), and GDP (0.12), suggesting its limited direct impact on these variables.

Integration of Results

The results from the trend, descriptive, and correlation analyses provide a comprehensive understanding of the interplay between remittances, economic growth, and private school enrollments:

- i. Private School Enrollment Trends:** Enrollment rates nearly tripled over the study period, with the proportion of students in private schools increasing from 11.23% in 2000 to 29.67% in 2022. This growth reflects changing educational preferences driven by rising incomes and aspirations for better-quality education.
- ii. Remittances and Economic Growth:** The exponential increase in remittance inflows and their high correlation with per capita GDP highlight their centrality in enhancing household financial capacity and enabling investments in education.
- iii. Policy Implications:** The observed trends emphasize the need for targeted interventions to address disparities in access to private education. Policymakers should ensure that public education remains competitive while supporting families reliant on remittance income to optimize their investments in education.

Limitations

This study relies exclusively on secondary data, which may not capture granular variations in household-level decision-making. Furthermore, the correlation analysis highlights relationships but does not establish causation, requiring further in-depth exploration of causal mechanisms through primary research.

By employing these methods, the study connects remittances, economic growth, and private school enrollments, offering insights into how socioeconomic dynamics shape educational access and participation in Nepal.

Results

The data from 2000 to 2022 illustrates a clear and significant upward trend in private school enrollments at the basic education level in Nepal. Over this 23-year period, the proportion of students enrolled in private schools increased substantially, reflecting changing educational preferences among Nepalese families.

Growth in Enrollment

In 2000, the number of students enrolled in private schools at the basic level was 547,073, which represented 11.23% of the total student population. By 2022, this figure had climbed to 1,575,178 students, accounting for 29.67% of the total. This represents a near tripling of the proportion of students in private schools over two decades, indicating a significant shift in parental and societal perceptions regarding the quality and benefits of private education.

Shifting Preferences for Private Education

The data highlights a growing reliance on private schools as a preferred alternative to public education. This shift can be attributed to several factors:

- i. Perceived Quality:** Private schools are often perceived as offering superior educational quality compared to public schools, with better resources, infrastructure, and extracurricular opportunities.
- ii. Increased Household Income:** Rising remittance inflows and improvements in per capita GDP have enhanced the financial capacity of families, enabling them to afford private education.
- iii. Urbanization and Accessibility:** With urbanization, there has been a growing availability of private schools in cities and peri-urban areas, making them more accessible to middle-income families.
- iv. Educational Aspirations:** Families increasingly view private education as a means to secure better future opportunities for their children, including higher education and employment prospects.

Key Periods of Growth

- i.** The early 2000s saw a steady but moderate increase in private school enrollment, as remittance inflows began to rise.

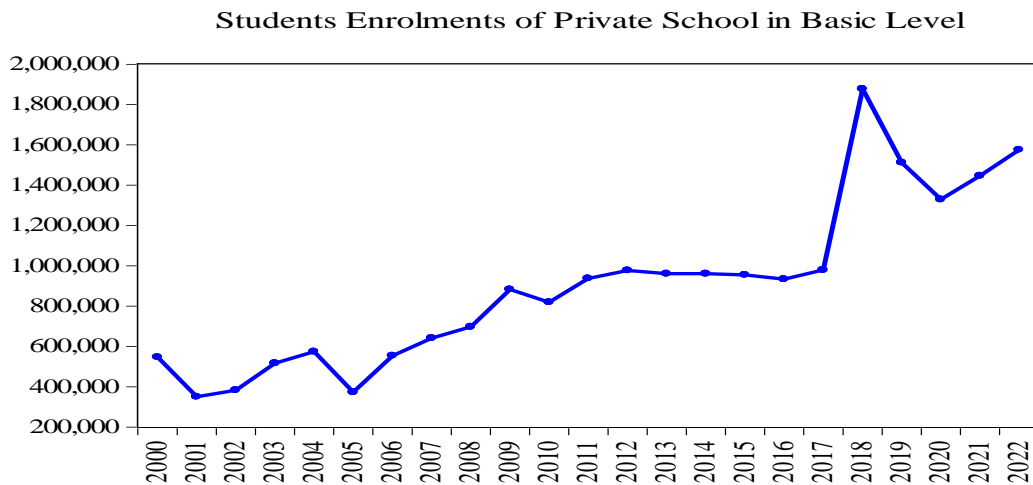
- ii. A significant acceleration occurred post-2010, coinciding with sharp increases in remittance income and economic growth. For instance, between 2009 and 2018, the share of private school enrollments surged from 13.57% to 31.28%.
- iii. Recent years have maintained this trend, with enrollments reaching their highest proportion of 29.67% in 2022.

Implications of the Trend

This increasing reliance on private schools highlights the evolving landscape of Nepal’s education system:

- i. **Economic Influence:** The trend underscores the role of economic factors, particularly remittances, in shaping educational decisions. As families gain financial stability, they are more likely to invest in private education.
- ii. **Equity Concerns:** The growing divide between private and public school enrollments raises questions about equitable access to quality education, particularly for low-income families who may not benefit from remittance inflows.
- iii. **Policy Challenges:** Policymakers face the challenge of ensuring that public education remains competitive and accessible while addressing disparities created by economic stratification.

Figure 1: Trend Line of Students Enrolments of Private School in Basic Level in Nepal



Source: Appendix-I

Figure 1 depicts a visual representation of the growth in private school enrollments over the period of 2000-2022. The upward trend is both consistent and significant, with notable accelerations during periods of economic growth and increased remittance inflows. This visualization reinforces the narrative of private education becoming an increasingly dominant choice for Nepalese families.

In summary, the steady increase in private school enrollments reflects broader socio-economic changes in Nepal, driven by rising household incomes and changing aspirations for educational quality. While this trend indicates progress in terms of educational access for many, it also emphasizes the need for equitable policy interventions to ensure inclusive education for all segments of the population.

Trends of Remittances

Remittances have emerged as a vital contributor to Nepal's economy, significantly influencing household income and shaping decisions regarding educational investments. Between 2000 and 2022, remittance inflows exhibited a remarkable upward trajectory, growing from Rs. 47,216.1 million in 2000 to Rs. 1,220,560 million in 2022, a 25-fold increase. This sustained growth underscores the critical role of international labor migration in bolstering Nepalese households' financial stability.

Impact of Remittances on Education

The sharp increase in remittance inflows has alleviated financial constraints for many families, enabling them to prioritize education. Specifically, remittances:

- i. **Facilitate Private School Enrollment:** Increased disposable income allows families to afford higher tuition fees and associated costs, such as transportation, uniforms, and extracurricular activities.
- ii. **Reduce Child Labor:** In remittance-receiving households, children are less likely to engage in labor to supplement family income, freeing them to focus on their education.
- iii. **Enhance Access in Rural Areas:** Remittance income bridges economic barriers in rural regions, where the cost of accessing quality education is often prohibitive due to limited public school resources.

Socioeconomic Considerations

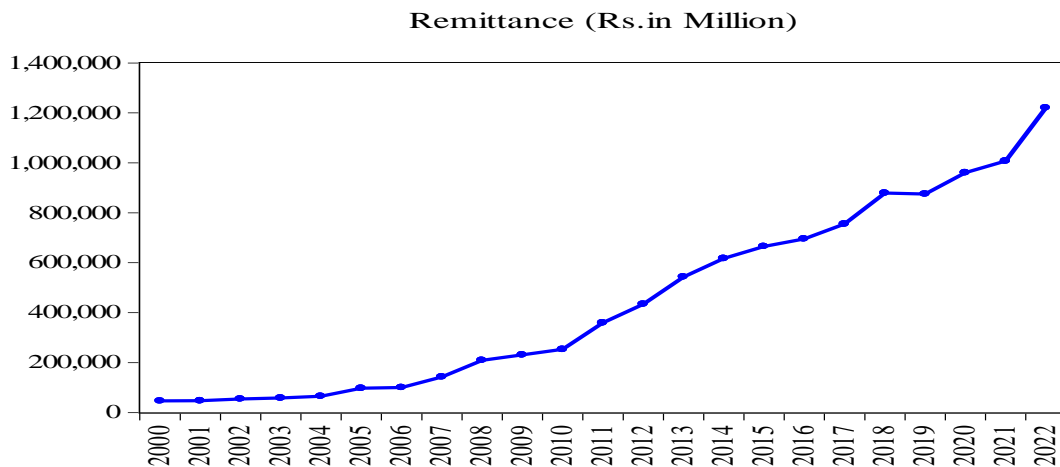
While remittances boost educational opportunities, they may also introduce challenges. The migration of parents or guardians for work often leads to parental absence, which can negatively impact children's emotional well-being and academic performance. Additionally, some families may allocate remittance income to non-educational expenditures, potentially undermining its long-term benefits for human capital development.

Policy Implications

The dual-edged impact of remittances necessitates targeted policy interventions to maximize their positive effects while mitigating adverse outcomes. Policymakers should focus on:

- i. **Strengthening Public Education:** Enhancing the quality of public schools to ensure they remain a viable option for families not benefiting from remittance income.
- ii. **Supporting Remittance-Dependent Families:** Developing programs to assist children in remittance-dependent households, addressing issues of emotional support and academic guidance.
- iii. **Encouraging Financial Literacy:** Promoting awareness among remittance-receiving families about the importance of investing in education for long-term socioeconomic benefits.

Figure 2: Trend Line of Remittances



Source: Appendix-I

Figure 2 illustrates the exponential growth in remittance inflows from 2000 to 2022. The data highlights key periods of accelerated growth, such as during the early 2010s, which coincided with increased labor migration to Gulf countries and Malaysia. This visual representation underscores the profound impact of remittances on Nepal's economic landscape and its direct correlation with enhanced educational investments. Remittances play an indispensable role in driving educational access and private school enrollments in Nepal. However, a holistic approach that addresses potential challenges, such as parental absence and equitable educational opportunities, is essential to ensure sustainable outcomes.

Per Capita GDP (in USD)

The graph illustrates the trend of Per Capita GDP in Nepal from the year 2000 to 2022, highlighting a consistent upward trajectory. This trend underscores the economic growth and development experienced by the country over the 23-year period.

Key Observations

Steady Growth Over Time

- i. In 2000, Nepal's Per Capita GDP was approximately USD 259. By 2022, this figure had risen to USD 1,399, representing a more than fivefold increase over two decades.
- ii. The upward trend indicates sustained economic progress, despite periods of slower growth.

Significant Growth Phases

- i. 2000–2005: The growth was relatively modest, with small incremental increases in Per Capita GDP. This period reflects the challenges Nepal faced, including political instability and economic constraints.
- ii. 2006–2014: The growth rate accelerated significantly during this phase, with Per Capita GDP increasing from USD 410 in 2006 to USD 871 in 2014. This period coincides with political stabilization and the growth of remittance inflows, which contributed substantially to household incomes.

- iii. 2015–2022: A sharp rise can be observed in this period, where Per Capita GDP reached USD 1,399. The growth aligns with enhanced economic reforms, international labor migration, and increased foreign remittances, which became a cornerstone of Nepal’s economy.

Post-2015 Acceleration

- i. A particularly sharp increase is visible from 2015 to 2020, suggesting significant economic recovery and the effects of growing remittances on the national economy.
- ii. The year 2020, despite the challenges posed by the COVID-19 pandemic, did not result in a decline in Per Capita GDP, likely due to the resilience of remittance inflows and domestic economic adjustments.

Stabilization in Recent Years

From 2020 to 2022, the graph shows a slower growth rate, indicating a phase of stabilization. The Per Capita GDP appears to plateau at around USD 1,400, which could reflect global economic pressures, including the pandemic’s lingering effects.

Implications of the Rising Per Capita GDP

Household Economic Stability

- i. The consistent rise in Per Capita GDP translates to increased household income, enabling families to allocate more resources toward education, healthcare, and improved living standards.
- ii. The increase likely played a key role in the growing preference for private school enrollments, as families could afford higher tuition fees and related educational costs.

Role of Remittances

A significant portion of Nepal’s economic growth is driven by remittance inflows. These funds have been instrumental in boosting household incomes, which is reflected in the steady rise of Per Capita GDP.

Educational Impact

The rise in Per Capita GDP aligns with the observed trend of increasing private school enrollments in Nepal. Higher incomes reduce economic barriers to accessing quality education, particularly in urban and semi-urban areas.

Policy Considerations

- i. The upward trend in Per Capita GDP highlights the importance of continued investments in sectors like education, healthcare, and infrastructure to sustain economic growth.
- ii. Policymakers should address income inequality and ensure that the benefits of rising GDP are equitably distributed across all socioeconomic groups.

Figure 3: Trend of Per Capita GDP (in USD) in Nepal

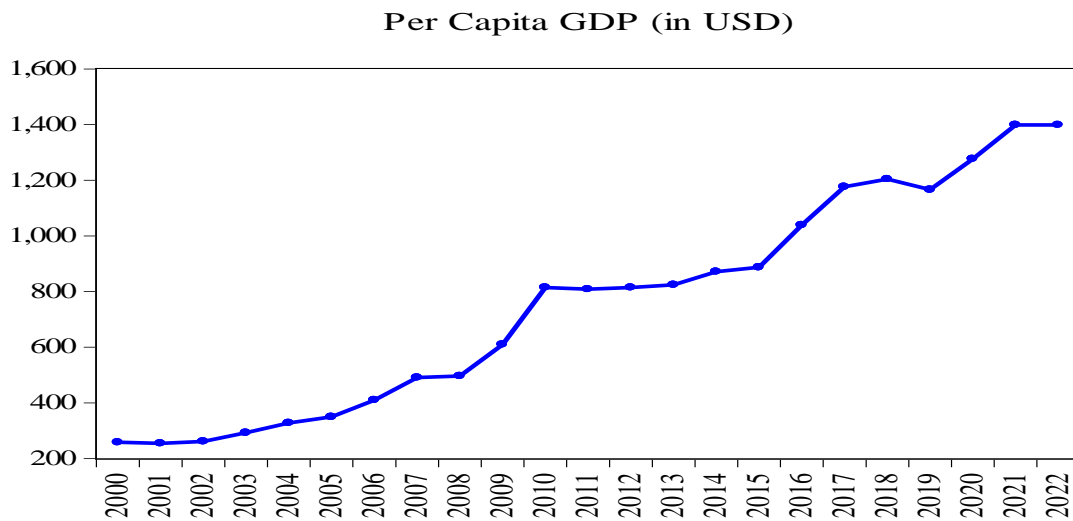


Figure 3 demonstrates Nepal’s significant economic progress, with Per Capita GDP rising steadily from 2000 to 2022. This growth has likely enhanced household financial capacity, contributing to shifts in educational preferences, including increased private school enrollments. The upward trajectory of GDP is a positive indicator for the country’s economic resilience, though challenges such as income inequality and ensuring equitable access to public services remain critical areas for policy intervention.

Descriptive Statistics

The descriptive statistics provide a summary of the key variables related to private school enrollments, remittances, per capita GDP, and population growth rates over the observed period (2000–2022). The statistical measures—mean, median, maximum, minimum, standard deviation, skewness, kurtosis, and the number of observations—offer insights into the central tendencies, variability, and distribution of the data.

Table 1: Descriptive Statistics of Private School Enrollments, Remittances, Per Capita GDP, and Population Growth Rate

	Enrolments	Remittances (in million)	Per capita GDP (in USD)	Population Growth Rate
Mean	903732.10	448790.30	757.98	1.02
Median	934236.00	359554.40	814.31	1.08
Maximum	1877680.00	1220560.00	1399.00	2.31
Minimum	350135.00	47216.10	254.55	0.19
Std. Dev.	413083.90	371849.90	390.43	0.57
Skewness	0.67	0.48	0.17	0.34
Kurtosis	2.74	1.92	1.71	2.32
Observations	23	23	23	23

Table 1 shows descriptive statistics for enrollments in private schools, remittances, per capita GDP, and population growth rates provide valuable insights into their trends over the 23-year period. The average number of enrollments in private schools was 903,732, indicating that nearly a million students on average were enrolled annually at the basic level. The median enrollment of 934,236 highlights a balanced distribution, while the maximum enrollment of 1,877,680 in 2018 demonstrates a significant increase in recent years. The lowest enrollment of 350,135 occurred in 2001, reflecting the early stages of the dataset. The standard deviation of 413,083.90 suggests moderate variation in enrollment numbers, with a slightly positive skew of 0.67 indicating that most enrollments were clustered around lower values. The kurtosis of 2.74 suggests a relatively normal distribution.

Remittance inflows, a key driver of economic stability, averaged Rs. 448,790.30 million over the period, with a median value of Rs. 359,554.40 million, reflecting higher inflows in later years. The maximum remittance inflow of Rs. 1,220,560 million in 2022 illustrates rapid growth in labor migration and international transfers, while the lowest inflow of Rs. 47,216.10 million in 2000 marked the starting point of the trend. The standard deviation of Rs. 371,849.90 million indicates substantial growth with wide annual fluctuations. A moderate positive skew of 0.48 suggests higher values influenced the average, while a kurtosis of 1.92 shows a flatter distribution with fewer extreme values.

Per capita GDP also showed significant growth, averaging USD 757.98 over the period, with a median of USD 814.31 slightly higher than the mean, indicating the presence of lower values in earlier years. The maximum GDP of USD 1,399 in 2022 highlights consistent economic progress, while the minimum of USD 254.55 in 2001 reflects challenging early conditions. A standard deviation of USD 390.43 suggests moderate variation, with a nearly symmetrical skewness of 0.17 and a kurtosis of 1.71, indicating fewer extreme deviations.

Population growth rates averaged 1.02%, aligning with global trends of declining growth in developing nations. The median growth rate of 1.08% is slightly higher than the mean, reflecting a gradual decline over time. The highest growth rate of 2.31% in 2021 was likely influenced by demographic or methodological factors, while the lowest rate of 0.19% in 2013 indicates a significant drop. The standard deviation of 0.57% shows stable growth rates with minimal fluctuations. The skewness of 0.34 indicates a slight positive skew, with values clustered around the lower end, while the kurtosis of 2.32 suggests a relatively normal distribution.

The steady increase in private school enrollments reflects a growing preference for private education in Nepal, largely driven by rising household incomes and remittance inflows. This shift highlights the transformative changes in the country's education sector over the past two decades. The exponential rise in remittances has played a critical role in shaping household income, directly influencing educational investments and enabling families to prioritize private schooling. Policymakers should focus on leveraging remittance inflows to address disparities in educational access and economic opportunities. Similarly, the upward trend in per capita GDP signals sustained economic growth, allowing families to improve their living standards and afford better educational options. However, income inequality remains a concern, emphasizing the need for policies that ensure equitable access to quality education. Meanwhile, the declining population growth rate aligns with global demographic trends, potentially reducing pressure on public resources. This shift calls for a focus on improving the quality of education rather than simply expanding its reach.

Correlation Analysis

The correlation matrix reveals important relationships among the variables enrollments in private schools, remittances, per capita GDP, and population growth rate helping to understand how these factors interact.

Table 2: Correlation Matrix

	Enrolments	Remittances (in million)	Per capita GDP (in USD)	Population Growth Rate
Enrolments	1	0.9109	0.9139	0.1303
Remittances (in million)	0.9109	1	0.9721	0.2128
Per capita GDP(in USD)	0.9139	0.9721	1	0.1238
Population Growth Rate	0.1303	0.2128	0.1238	1

Source: Results from data analysis.

Table 2 shows private school enrollments show a strong positive correlation with remittances (0.91), indicating that as remittances increase, the number of students enrolled in private schools also rises. This relationship underscores the critical role of remittance inflows in boosting household income, which enables families to afford private education. Similarly, there is a strong positive correlation between enrollments and per capita GDP (0.91), suggesting that sustained economic growth, reflected in rising per capita income, significantly influences the preference for private schools. Families with higher incomes are more likely to invest in private education, perceiving it as a better-quality alternative to public schools.

The correlation between remittances and per capita GDP is extremely high (0.97), indicating that these two variables move closely together. This suggests that remittance inflows have a substantial impact on Nepal's overall economic performance, contributing significantly to per capita GDP growth. The positive relationship emphasizes the dependence of Nepal's economy on international labor migration and remittances as a key source of income.

In contrast, the correlation between population growth rate and other variables enrollments (0.13), remittances (0.21), and GDP (0.12) is relatively weak. This indicates that population growth has had a limited direct impact on private school enrollments, remittance inflows, or per capita GDP over the observed period. The weak correlations reflect the global trend of declining population growth rates, which might have reduced pressure on educational resources, but have not been a primary driver of economic or educational changes in Nepal.

The analysis highlights the strong interplay between remittances, GDP, and private school enrollments, emphasizing the economic drivers of educational preferences. However, population growth rate shows minimal direct influence on these factors, signaling the importance of focusing on economic and social policies to sustain progress in education and income distribution.

Discussion

The findings of this research highlight the interplay between remittances, economic growth, and private school enrollments in Nepal from 2000 to 2022. This study's results align with and expand on existing literature, providing a more nuanced understanding of how remittance-driven economic changes influence educational preferences. A comparison with ten past studies from the literature review illustrates both convergences and divergences in findings.

This research supports and builds upon existing literature, highlighting the multifaceted impact of remittances on education in Nepal. Al-Islam et al. (2022) demonstrated that remittances alleviate financial barriers, improving educational access in Bangladesh, and this study similarly finds a strong positive correlation (0.91) between remittances and private school enrollments. However, while Al-Islam et al. recommend government incentives for remittance-dependent families, this research focuses on improving public education to address equity concerns. Gyimah-Brempong and Asiedu (2015) also emphasized the role of remittances in boosting education in Ghana, a trend reflected here, where remittance-driven GDP growth (correlation of 0.97) enables families to afford private education. Yet, unlike their focus on primary and secondary education, this study narrows its scope to private school enrollments.

Khan and Khan (2016) found that remittances addressed regional and gender disparities in Pakistan's education sector. While this study does not specifically explore gender or regional trends, it highlights how remittances reduce economic barriers, paving the way for broader access to private education. Future research could build on this to investigate whether similar patterns exist in Nepal. Murakami (2019) identified negative effects of parental migration on school attendance in Tajikistan, due to emotional and caregiving challenges. This research acknowledges this potential drawback of migration, even as it focuses on the financial benefits that remittances bring to education.

The economic resilience provided by remittances, as noted by Yousaf et al. (2023) in GCC nations, aligns with this study's findings that remittance-driven GDP growth directly enhances private school enrollments. While Yousaf et al. focused on macroeconomic outcomes like poverty reduction, this research centers on the education sector, illustrating how economic changes translate into increased enrollments. Similarly, Bhandari (2020) emphasized the allocation of remittances toward private tuition in Nepal, noting their limited impact on educational quality. This study expands on those findings, showing a sustained increase in private school enrollments but echoing concerns that rising enrollments may not guarantee improved educational outcomes without investments in teacher quality and infrastructure.

Hu and Ortagus (2022) showed that financial stability influences dual enrollment in the U.S., paralleling this study's finding that rising incomes from remittances and GDP growth enable families in Nepal to choose private schools. Joseph and Wodon (2014) highlighted remittances' role in education and poverty reduction in Yemen, advocating for targeted regional policies, a recommendation echoed in this research, which calls for policies to ensure public education remains competitive and accessible.

Forster et al. (2020) revealed persistent socioeconomic inequalities in education systems in Germany and the U.S., even with improved access. Similarly, this study observes that while remittances enhance access to private schools in Nepal, they may exacerbate disparities between households benefiting from remittances and those without such income. Finally, Stanley and Fleming (2019) observed that

remittances positively influence school attendance in Nepal, a finding that aligns with this study's revelation that private school enrollments nearly tripled over two decades. However, while Stanley and Fleming emphasized promoting domestic migration to sustain remittance flows, this study highlights the need to diversify household income sources to reduce overdependence on remittances.

This research contributes to the growing body of knowledge by situating remittance-driven educational choices within the context of Nepal's private school sector. While aligning with existing literature on the positive impact of remittances, it identifies challenges such as the growing divide between private and public school enrollments. The strong correlations between remittances, GDP, and enrollments underscore the need for sustainable policies that ensure inclusive educational opportunities. Additionally, the findings draw attention to persistent socio-economic disparities, emphasizing the importance of strengthening public education systems to bridge these gaps.

Despite its insights, this study is limited by its reliance on secondary data, which may not capture nuanced household-level dynamics. Future research could employ qualitative methods to explore the socio-emotional impacts of parental migration and the allocation of remittances. Longitudinal studies could also provide deeper insights into how these trends evolve over time, particularly in addressing gender and regional disparities. By integrating these findings with policy interventions, Nepal can leverage remittances to achieve equitable and sustainable educational outcomes.

Conclusion

This study highlights the significant role of remittances and economic growth in driving private school enrollments in Nepal from 2000 to 2022. The findings reveal strong correlations between remittances, per capita GDP, and private school enrollments, underscoring how increased household financial capacity, driven by international labor migration, has transformed educational preferences. Private school enrollments nearly tripled during the study period, reflecting changing aspirations for quality education. However, the study also identifies disparities in access, as families without access to remittance income face barriers to private education. These results emphasize the dual-edged impact of remittances—while they enhance financial capacity and increase enrollment rates, they also risk widening socioeconomic inequalities. Policymakers must address these disparities while ensuring that public education remains a viable and competitive alternative.

The findings of this study have significant implications for policymakers and stakeholders in Nepal's education sector. Targeted policies are required to balance the growing demand for private education with improvements in public education. This includes investing in teacher training, infrastructure, and curriculum development to make public schools competitive and accessible to all. To address the disparities caused by remittance income, initiatives such as financial aid and scholarship programs should be introduced to support economically disadvantaged families, ensuring equitable access to quality education. Furthermore, reducing overreliance on remittance income is critical. National strategies must promote domestic job creation and diversify income sources to mitigate the risks associated with fluctuations in remittance inflows, which can have far-reaching consequences on education and economic stability.

The emphasis on increasing enrollments must also be complemented by a focus on improving educational quality to ensure long-term benefits for human capital development. Policies should address regional disparities, particularly in rural areas where public schools are often the only feasible option, and remittance inflows may not benefit households equally. Additionally, regional

development efforts should prioritize rural education infrastructure to bridge the gap between urban and rural access to quality schooling. By aligning investments in education with regional and income-based disparities, Nepal can ensure that the benefits of remittance-driven economic growth are distributed equitably, creating a foundation for sustainable development in the education sector.

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APPENDIX

FY	Total Enrolments in Basic Level	Students Enrolments of Private School in Basic Level	% of Total Enrolments	Per Capita GDP (in USD)	Population growth (Annual %)	Remittance (Rs.in Million)
2000	4873470	547073	11.22553	258.7799	1.709776	47216.1
2001	4818159	350135	7.266987	254.5523	1.601837	47536.3
2002	4969613	382900	7.704825	261.2944	1.495833	54203.3
2003	5164000	517000	10.01162	293.2073	1.375027	58587.6
2004	5475039	573801	10.48031	327.8313	1.242331	65541.2
2005	5877493	373543	6.355482	349.5486	1.075359	97688.5
2006	5816193	554323	9.530684	410.0724	0.885774	100144.8
2007	5862228	640760	10.93032	491.3467	0.731449	142682.7
2008	6249175	697345	11.15899	496.5228	0.62651	209698.5
2009	6505085	882727	13.5698	609.5348	0.539423	231725.3
2010	6676944	819307	12.27069	814.318	0.496881	253551.6
2011	6595565	937239	14.21014	808.2408	0.385214	359554.4
2012	6399875	977269	15.27013	814.3086	0.235525	434581.7
2013	6230131	961430	15.43194	824.1442	0.185922	543294.1
2014	6170668	960770	15.56995	871.4402	0.293748	617278.8
2015	6127815	954773	15.58097	887.6123	0.538271	665064.3
2016	5994000	934236	15.58619	1039.025	0.904474	695452.4
2017	5836712	980009	16.79043	1176.696	1.149954	755058.6
2018	6002158	1877680	31.28342	1203.836	1.140549	879367.1
2019	5319004	1512365	28.43324	1166.629	1.136352	875027
2020	5338953	1329433	24.90063	1276.81	1.774268	961054.6
2021	5325980	1446543	27.16013	1398.851	2.311724	1007307
2022	5309581	1575178	29.66671	1399.00	1.692247	1220560

Source: Nepal Rastra Bank, 2024 & MOF, Economic Survey, 2024.

