# The Effect of Migrant Remittances on Schooling in Burkina Faso: A Disaggregated Analysis of Primary and Secondary Education

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**Abstract:**

Considered one of the key drivers of recent economic development and a lever for improving individual and collective well-being, education represents a strategic investment. This study, therefore, investigates the effect of internal and external remittances on the education of children in rural Burkina Faso, using a multinomial endogenous treatment effect model and data from the National Land Management Program covering 6,224 children across 1,827 households. The results show that both internal and external remittances significantly improve primary education by increasing children's likelihood of school enrolment and reducing their risk of dropping out. At the secondary level, external remittances continue to have a positive effect on education, while internal remittances tend to reduce the likelihood of enrolment and increase dropout risk.

Furthermore, the findings reveal that external remittances have the strongest impact on enrolment, while internal remittances are more effective at reducing dropout risk at the primary level. These results highlight the need to increase investment in educational infrastructure, especially at the secondary level, to enhance the effectiveness of remittances. They also emphasize the importance of raising awareness among migrants and recipients about the long-term benefits of investing in children's education.

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## Introduction

Education, as a key component of human capital, is one of the most important drivers of sustainable development and economic progress in any society. Investment in education is regarded as a means of fostering long-term economic growth, transforming social behaviours, and building democratic societies in developing countries (Aras & Öztürk, 2017). According to Becker's (1964) human capital theory, education and training are investments that yield future returns. From this perspective, investing in education not only enhances access to more stable employment and higher wages, but also contributes to broader benefits such as improved health outcomes (Maïga, 2015) and greater overall life satisfaction (Powdthavee et al., 2015). Despite its critical role in driving development, education remains underfunded and often deprioritized in national development agendas across Africa. According to the World Bank (2020), 71% of the 62.2 million children of primary school age and 59% of the 60.7 million secondary-age children who were out of school in 2016 lived in developing countries, particularly in Africa.

As in several sub-Saharan African countries, Burkina Faso exhibits some of the lowest academic performance indicators. Although some progress has been made in recent years, these achievements remain relatively limited. According to the PNUD (2022), Burkina Faso ranks 182nd out of 189 countries. Gross enrolment rates are 87.12% for primary and 38.29% for secondary education, both below the sub-Saharan African averages of 98.82% and 44.78%, respectively, for the year 2021 (World Bank, 2023). Moreover, school completion rates remain relatively low compared to sub-Saharan averages, standing at 63.84% for primary and 37.57% for secondary education, compared to 71.01% and 44.85% for primary and secondary education, respectively, in the region.

The low education outcomes observed in many developing countries, including Burkina Faso, can be attributed to multiple factors, particularly the low level of investment in human capital development. This is often driven by socio-economic constraints, including restrictive social norms and most critically income limitations. In Burkina Faso, INSD (2010) identifies lack of financial means as the main reason cited for both the non-enrolment and dropout of children from the education system. This challenge is even more acute in a country where over 40% of the population lives below the poverty line, and where 73.7% of people reside in rural areas, largely engaged in subsistence agriculture that remains underdeveloped (INSD, 2020). These populations also face limited access to credit and insurance markets due to high geographic risk covariance, elevated moral hazard, and widespread credit rationing (Zahonogo, 2011).

In such a context, where liquidity constraints prevent long-term investments like education, remittances from migrants may play a critical role in easing these financial barriers and encouraging investment in human capital through children's education. The World Bank (2023) estimates that remittances to sub-Saharan Africa reached nearly $8 billion in 2021, up from $5 billion in 2010, representing 2.6% and 2.2% of the region's GDP, respectively. For Burkina Faso, remittances increased from around $112 million in 2010 to nearly $202 million in 2021, representing 1.19% and 2.91% of GDP, respectively. In the academic literature, the potential of migrant remittances to improve educational outcomes in recipient households is primarily grounded in the New Economics of Labor Migration (NELM) theory of Stark and Bloom (1985) and Stark (1991), as well as the human capital theories of Becker (1964) and Schultz (1961), which view investment in education as a means of enhancing household well-being. This perspective is supported by several empirical studies (e.g., Fambeu, 2021; Sapkota & Malakar, 2021; Ahmed et al., 2023), which demonstrate a positive relationship between remittances and educational outcomes in various developing countries and regions. Conversely, other works (e.g., Rapoport & Docquier, 2006; Nobles, 2013; Murakami, 2021) has found negative effects, suggesting that remittances may actually hinder education through adverse incentives or reduced parental involvement.

Given the mixed findings in the literature, it is particularly relevant to examine the impact of migrant remittances in a country with a strong migratory tradition such as Burkina Faso. To the best of our knowledge, there is a notable lack of empirical evidence on the effects of remittances on education in Burkina Faso. This study seeks to fill that gap by analysing the impact of migrant remittances on children's education at both the primary and secondary levels. Additionally, it provides a disaggregated analysis by distinguishing between internal and international remittances. As highlighted by Bansak et al. (2015), Askarov & Doucouliagos (2020) and Ahmed et al. (2023), such disaggregation is crucial, as the effects of remittances may differ based on their origin, allowing for a more nuanced understanding of their role. This research is especially important given that education is a cornerstone of human development. Gaining insight into how remittances affect schooling, particularly in rural areas where most households in Burkina Faso face significant economic constraints, can inform long-term policy decisions related to human capital formation and inclusive economic growth.

The remainder of this article is structured as follows: Section 1 reviews the existing literature. Section 2 outlines the research methodology. Section 3 presents and analyses the results. Section 4 concludes the study and highlights the main implications for economic policy.

## 1. Literature Review

Theoretically, the relationship between remittances and education can be explained through the New Economics of Labor Migration (NELM) theory developed by Stark and Bloom (1985) and Stark (1991). This theory views migration not as an individual decision but as a collective household strategy. Households support migrants by financing migration costs with the expectation that remittances will help maximize income, reduce risks, diversify income sources, and alleviate financial constraints, especially in developing countries with limited access to credit markets. Migration is thus motivated by the desire to improve household welfare in the origin country. In this context, remittances function as a form of informal insurance that smooths consumption, relaxes liquidity constraints, and supports investments in areas such as children's education.

The human capital theory, developed by Becker (1964) and Schultz (1961), also provides a strong framework for understanding the impact of remittances on education. This theory posits that investment in education enhances individual productivity and economic returns. Schultz (1961) argues that much of the income growth observed in developed countries is attributable to human capital development, and that underinvestment in people remains a key obstacle to progress in developing nations. Accordingly, financial constraints are a major barrier to education, and remittances may help overcome them by providing households with the means to invest in their children's schooling. From this perspective, remittances can reduce poverty and improve overall household well-being, including access to education which is essential to sustaining long-term improvements in living standards.

Empirically, however, the beneficial effect of remittances on education remains ambiguous, as findings often vary across countries due to differing socio-economic contexts. Some studies report positive effects. For example, Nosheen et al. (2022) find that in Pakistan, remittance-receiving households allocate a higher share of income to education compared to non-receiving households. Their findings highlight how limited access to credit can constrain educational investment, a constraint that remittances help overcome.

Similarly, Fambeu (2021) finds that international remittances promote educational attainment among girls aged 18–25 in Cameroon. In Togo, Mawuena and Okey (2021) report that remittances significantly increase educational outcomes among recipient households. Mishra et al. (2022) in Nepal and Wanger & Aras (2022) in Nigeria also find a positive association between remittances and human capital investment. Sapkota & Malakar (2021) show that remittances in Nepal correlate with improved school attendance, longer schooling duration, and better educational quality. Aregbeshola (2022) confirms that remittances enhance human capital development in sub-Saharan Africa by improving access to education.

Similarly, Ahmed et al. (2023) show that remittances in Bangladesh reduce the risk of school dropout among children aged 6 to 18. Sohail et al. (2025) also find that in Pakistan, remittances contribute significantly to reducing gender disparities unfavourable to girls, both in terms of mean years of schooling and non-enrolment rates. All of these positive effects of remittances on children's education are further generalized in Feldmann's (2025) study, which reveals, using a sample of both developing and developed countries, that the positive impact of remittance flows observed in developing nations also extends to developed contexts.

Remittances can also reduce child labour by easing liquidity constraints. When households receive sufficient income, they may invest in labour-saving technologies or hire additional workers, thereby reducing reliance on child labour and allowing children to attend school (Acharya & Leon-Gonzalez, 2014). Coon (2016) likewise finds that remittances reduce both the incidence and intensity of child labour in rural areas. Ajefu & Massacky (2023) show that in Tanzania, migrant remittances serve as a channel through which the adoption of mobile money reduces child labour while boosting school enrolment. In Burkina Faso, Bargain & Boutin (2015) report that remittances reduce child labour in households with long-term migration, where the disruptive effects of migration have diminished over time. These findings underscore the significance of liquidity constraints and household vulnerability in shaping human capital investments.

However, remittances are not always beneficial. The income effect may be offset by the social disruption caused by migration. Migration typically entails the absence of a household member, which can negatively affect children's education. Nobles (2013) finds that in Mexico, households with migrants often resemble disorganized family structures, resulting in reduced psychological well-being and academic performance among children. This is especially true in cases of parental migration, where the absence of guidance and support has a direct impact on children's school attendance and performance, although this is nuanced by the findings of Tello and Sánchez (2025). Murakami (2021) finds similar results in Tajikistan, where migration reduces school enrolment among children due to the lack of supervision. Emotional stress and diminished family support further weaken children's academic outcomes. Moreover, when a household loses an economically active member, children may be required to substitute for lost labour, which often leads to increased child labour and lower educational attainment. The time children spend working reduces their ability to focus on studies and raises the likelihood of school dropout.

The misallocation of remittances within households can also play a role. According to Rapoport & Docquier (2006), remittances are sometimes used to meet immediate needs, such as food, health, or housing, rather than long-term investments like education. This is especially likely when households or migrants perceive the returns to education as low. McKenzie and Rapoport (2006) find that in Mexico, children in migrant households are less likely to complete secondary school, particularly older children who face high opportunity costs of education and are attracted by low-skilled employment opportunities abroad. Faini (2007) further argues that remittances tend to be inversely related to migrants' skill levels, meaning that the loss of skilled workers through migration is not necessarily offset by remittance flows.

Beyond the debate over the positive or negative impacts of remittances, several studies have also examined whether the source of remittances matters. Internal remittances are generally considered less risky and more stable, though typically smaller in amount, whereas international remittances tend to be larger but are often more volatile and costly to transfer. Askarov & Doucouliagos (2020), using data from 30 countries, find that internal remittances have a weaker effect on education spending compared to international remittances. In contrast, Bansak et al. (2015), in a study conducted in Nepal, report that internal remittances have a stronger positive impact on education. They argue that internal migrants may place greater value on education or have a better understanding of local labour market demands, thereby encouraging greater investment in schooling. Similarly, Clément (2011) highlights a distinction between internal and external remittance flows in Tajikistan. He finds that external remittances tend to increase household consumption, particularly of durable goods, whereas internal remittances are more frequently allocated to human capital expenditures.

## 2. Research Methodology

### 2.1. Data and Descriptive Statistics

The data used in this study were obtained from the first survey of the third phase of the National Survey on the Living Conditions of Rural Households under the Second National Land Management Program. The survey was conducted by the Laboratory of Applied Quantitative Analysis for Development – Sahel (LAQAD-S) between July and August 2017 and covered all 13 regions of Burkina Faso. The objective of this program was to reduce poverty and promote sustainable development in rural areas by combining community capacity-building activities with targeted investments. The dataset includes detailed information on household characteristics and various indicators related to their production and consumption decisions. The original sample consisted of 2,160 households across 270 villages, selected to be representative of the rural population. The sampling process occurred in multiple stages. First, 90 municipalities were randomly selected from a list of all municipalities, stratified by region. Second, within each selected municipality, three villages were randomly chosen. Third, within each village, eight households were randomly selected following a census of all households, categorized by the type of agricultural traction used (manual, animal, or motorized). After processing the data related to children's educational status and household characteristics, the final analytical sample includes 6,224 children from 1,827 households.

Table 1 shows that more than 81.51% of children live in households that do not receive any form of financial transfers, 11.95% live in households that receive internal transfers, and only 6.54% live in households that receive external transfers. The table also indicates that the average age of household heads is 48.59 years, about 95% are male, and only 26.80% have received formal education. The average income for these households is estimated at 3.945 million FCFA, with an average credit received of 0.102 million FCFA, and a dependency ratio of approximately 1.32 inactive members per working adult. In addition, 21.90% of households have at least one member living outside the household, and the average local migration rate is 7.54%.

For the children, the average age is 14.79 years, and 54.80% are male. In terms of schooling, 64% of children are enrolled in primary school, while 89.20% are enrolled in secondary school. Regarding school dropout, 28.60% of children have dropped out of primary school, and 28.20% have dropped out of secondary school. The average distance from home to school is estimated at 0.823 km for primary school students and 6.718 km for secondary school students.

Table 1: Descriptive characteristics of sampled children

| Variables | Definitions | Mean | Std. dev. |
|---|---|---|---|
| Outcome variables | | | |
| Primary school enrolment | 1 if a child aged 6–13 is enrolled in any primary-grade class and 0 if the child has never attended school. | 0.640 | 0.480 |
| Secondary school enrolment | 1 if a child is enrolled in any secondary-grade class and 0 if the child passed the primary completion exam but did not enrol in secondary school. | 0.892 | 0.310 |
| Primary school dropout | 1 if a child has dropped out during any primary grade and 0 if still enrolled at the primary level. | 0.286 | 0.451 |
| Secondary school dropout | 1 if a child has dropped out during any secondary grade and 0 if still enrolled at the secondary level. | 0.282 | 0.450 |
| Migration and Remittances variables | | | |
| Remittance type (categorical) | 0 if the household does not receive any remittances. | 0.815 | 0.388 |
| | 1 if the household receives only internal remittances. | 0.119 | 0.324 |
| | 2 if the household receives only external remittances. | 0.065 | 0.247 |
| Local migration rate | Migration rate in the household's area of residence (%). | 7.547 | 3.422 |
| Migrant | 1 if the household has a member living outside the household. | 0.219 | 0.414 |

| Variables | Definitions | Mean | Std. dev. |
|-----------|-------------|------|-----------|
| Household characteristics | | | |
| Age of household head | Age in years of the household head. | 48.597 | 13.393 |
| Gender of household head | 1 if the household head is male and 0 otherwise. | 0.948 | 0.220 |
| Education of household head | 1 if the household head has received formal education and 0 otherwise. | 0.268 | 0.443 |
| Household dependency ratio | Ratio of inactive to active members in the household. | 1.325 | 0.794 |
| Household income | Household income from agricultural and livestock activities (in millions of FCFA). | 3.945 | 18.335 |
| Credit received | Amount of credit received by the household (in millions of FCFA). | 0.102 | 0.319 |
| Distance to primary school | Distance in tens of kilometres from the household to the primary school. | 0.0823 | 6.906 |
| Distance to secondary school | Distance in tens of kilometres from the household to the secondary school. | 0.671 | 8.277 |
| Child characteristics | | | |
| Age of children | Age in years of the child. | 14.797 | 9.804 |
| Gender of children | 1 if the child is male and 0 otherwise. | 0.548 | 0.497 |

Source: Authors

A comparative analysis between children in households that receive migrant remittances and those that do not suggests that children in non-recipient households are relatively less likely to be enrolled in school. Table 2 shows that 73.02% and 95.69% of children in households receiving international remittances are enrolled in primary and secondary school, respectively. Similarly, 65.49% and 94.02% of children in households receiving internal remittances are enrolled at the primary and secondary levels, respectively. These enrolment rates are relatively lower among non-recipient households, with only 63.09% of children enrolled in primary school and 88.22% in secondary school.

Table 2: Proportion of children attending school by remittance status, in percentages

| Remittance status | Primary school | Secondary school |
|-------------------|----------------|------------------|
| External remittances | 73.02 | 95.69 |
| Internal remittances | 65.49 | 94.02 |
| None | 63.09 | 88.22 |

Source: Authors

A similar analysis of school dropout reveals that children from households not receiving any remittances are more likely to leave the school system. Table 3 shows that 42.06% and 42.93% of children from non-remittance-receiving households dropped out of school at the primary and secondary levels, respectively. These rates are relatively lower among households receiving either internal or external remittances. For children in households receiving external remittances, 29.54% and 24.71% dropped out at the primary and secondary levels, respectively. Among those receiving internal remittances, the dropout rates are 31.86% for primary and 26.19% for secondary education.

Table 3: Proportion of children who dropped out of school by remittance status, in percentages

| Remittance status | Primary school | Secondary school |
|-------------------|----------------|------------------|
| External remittances | 29.54 | 24.71 |
| Internal remittances | 31.86 | 26.19 |
| None | 42.06 | 42.93 |

## 2.2. Empirical Strategy

The literature review shows that remittances from migration influence children's education, but their effect remains difficult to identify due to endogeneity issues. Indeed, one of the main methodological challenges in studying the impact of remittances on educational outcomes lies in the fact that the receipt of remittances is not random (Clément, 2011). Endogeneity can arise from several sources. For example, households may receive remittances precisely because they are struggling to finance their children's schooling. The omission of relevant variables, such as social capital, migration networks, or educational preferences, may affect both the likelihood of receiving remittances and schooling decisions. Measurement error in reporting the amount or nature of remittances can also lead to bias. Finally, a selection bias may occur if households receiving remittances have unobservable characteristics, such as motivation or access to information, that differ from those of non-recipient households.

In this study, the type of remittance received (internal or external) is therefore considered potentially endogenous. To correct for these biases and isolate the causal effect of remittances on school enrolment and dropout probabilities, several econometric techniques are commonly used. Among them are the Instrumental Variable Probit model (Fambeu, 2021; Mishra et al., 2022), the Endogenous Switching Probit (ESP) model developed by Lokshin & Sajaia (2011), and the Propensity Score Matching (PSM) method proposed by Rosenbaum & Rubin (1983). However, these models are not suitable for handling multiple simultaneous treatments. Therefore, we employ the multinomial endogenous treatment effect model proposed by Deb and Trivedi (2006a; 2006b). Unlike other models addressing endogeneity, the multinomial endogenous treatment effect model accounts for the categorical nature of the treatment variable. Moreover, it corrects for endogeneity arising from both observable and unobservable factors. It also allows for the direct identification and estimation of the effects of each treatment category on the outcomes, providing a richer analysis of the different types of treatment and their differentiated impacts.

The model operates in two stages. In the first stage, individuals choose the type of remittance (internal or external). Specifically, we assume that the individual seeks to maximize his utility $V_{ij}$ while comparing the utility provided by the different types of alternative remittances. Each individual $i$ receives one treatment from a set of three choices ($j = 0, 1, 2$) which generally includes a control group, and hence a multinomial choice model. $EV_{ij}^*$ is the expected value $(E)$ of the indirect utility $(V)$ associated with the $jth$ household choice. For example, an individual $i$ will choose one type of remittance $j$ against any other type $k$ if and only if $V_{ij} > V_{ik}, j \neq k$.

$$EV_{ij}^* = z_i'\alpha_j + \sum_{j=1}^{2} \delta_j l_{ij} + \mu_{ij} \tag{1}$$

*where*: $z_i$ represents the exogenous variables with $\alpha_j$ the associated parameters. $\mu_{ij}$ is the error term. $EV_{ij}^*$ contains the latent factors $l_{ij}$ that incorporate unobserved characteristics common to individual i's treatment choice and outcome, assumed to be independent of $\mu_{ij}$. $\delta_j$ is the associated coefficient. $j = 0$ denotes the control group (individuals living in households that do not receive remittances).

We normalize the indirect utility function to zero for the basic choice so that $EV_{i0}^* = 0$. When $EV_{ij}^*$ is unobservable, we use a set of binary variables $t_j$ to represent the observed treatment choices ($t_i = t_{i1}, t_{i2}, \ldots, t_{ij}$). Similarly, suppose that $l_i = l_{i1}, l_{i2}, \ldots, l_{ij}$. Following Deb & Trivedi (2006a, 2006b), the probability of selecting the type of remittance conditional on latent factors follows a mixed multinomial logit (MMNL) structure, which is defined as follows:

$$\Pr(t_i | z_i, l_i) = \frac{\exp(z_i'\alpha_j + \delta_j l_{ij})}{1 + \sum_{k=1}^{2} \exp(z_i'\alpha_k + \delta_k l_{ik})} \tag{2}$$

The second stage consisted of evaluating the effect of the treatment on the outcome variables (school enrolment or dropout). $y$ (enrollment or dropout) are assumed to be binary. The expected value of the outcome variables for the individual $i$ ($i = 1,2, \ldots, N$) is given by:

$$E(y_i | t_i, x_i, l_i) = exp\left[ x_i'\beta + \sum_{j=1}^{2} \varphi_j \, t_{ij} + \sum_{j=1}^{2} \lambda_j \, l_{ij} \right] \quad (3)$$

*where*: $x_i$ represents the set of all exogenous covariates with $\beta$ the associated parameter vector. $\varphi_j$ are the treatment coefficients relative to the control group. $E(y_i | t_i, x_i, l_i)$ is a function of each of the latent factors $l_{ij}$, when the outcome variable is linked to unobservable effects that also influence the type of remittance.

The associated factor loadings $\lambda_j$ are selection terms, that reflect the correlation between the unobservable determinants of the type of remittance (relative to the control group) and the outcome. When $\lambda_j$ (the coefficient of the latent factor) is positive (negative), this implies that treatment and outcome are positively (negatively) correlated through unobservable characteristics. The joint estimation technique is performed using simulated maximum likelihood (SLM) based on Halton sequences (Bhat, 2001).

To ensure the model's identification, we use the local migration rate and the presence of a migrant within the child's household as instrumental variables. These instruments are commonly employed in empirical studies assessing the impact of remittance receipts on educational outcomes (e.g., Acosta, 2006; Lu & Treiman, 2007; McKenzie & Rapoport, 2011). A high local migration rate or the presence of a migrant in the household increases the likelihood of receiving remittances, but does not necessarily result in remittance receipt. Furthermore, these variables are assumed to have no direct effect on children's education; their influence operates only through remittance transfers. This satisfies the exclusion restriction required for valid instruments.

## 3. Results and Discussion

Table 4 shows that the lambda ($\lambda$) coefficients, which capture the presence of endogeneity for both internal and external remittances, are statistically significant. This confirms the existence of endogeneity bias between the receipt of migrant remittances and the likelihood of a child being enrolled in or dropping out of school. Therefore, the use of the multinomial endogenous treatment effect model is justified for addressing endogeneity in this analysis.

The analysis of the results in Table 4 shows that external remittances contribute overall to improved educational outcomes at both the primary and secondary levels, whereas internal remittances have a positive effect only at the primary level. Specifically, the results indicate that receiving external remittances increases the likelihood of school enrolment and reduces the probability of dropout at both levels of education, compared to children living in households that do not receive remittances. In contrast, internal remittances are associated with higher enrolment and lower dropout rates only at the primary level. These positive effects of both external and internal remittances on educational outcomes can be explained by the fact that they represent additional income, easing household budget constraints and enabling greater investment in children's education. By alleviating financial pressures, remittances may reduce the need for children to contribute to household income, thereby allowing them to dedicate more time to their studies (Acharya & Leon-Gonzalez, 2014; Coon, 2016). They may also be used to acquire labour-saving equipment or hire additional labour, reducing dependence on child labour and freeing up time for learning. These findings are consistent with those of Gyimah-Brempong & Asiedu (2015) in Ghana, Nosheen et al. (2022) in Pakistan, Wanger & Aras (2022) in Nigeria, and Ahmed et al. (2023) in Bangladesh, who found that remittances can lead to increased school enrolment and decreased dropout rates.

However, the results also indicate that internal remittances have a negative effect at the secondary level, as they are associated with a reduced likelihood of enrolment and a higher probability of dropout. This could be due to the higher costs associated with secondary education, which internal remittances, often smaller in amount, may be insufficient to cover, particularly in financially constrained households (McKenzie and Rapoport, 2006). When household resources are limited, older children may be more likely to engage in domestic chores or income-generating activities. These results may also reflect household decision-making, where the opportunity cost of schooling is high, or where the perceived returns to education are low, prompting parents to prioritize short-term earnings over continued schooling. Moreover, overreliance on remittances can foster financial dependence, leading some families to withdraw children from school to support migration strategies, expecting faster returns through low-skilled employment.

A comparative analysis at the primary level reveals that external remittances have a stronger impact on increasing school enrolment probabilities, while internal remittances appear to play a more significant role in reducing school dropout at this level. This can be explained by the fact that external remittances are typically larger in amount and are often perceived as investment resources, including in education (Askarov & Doucouliagos, 2020). These funds enable households to cover upfront expenses such as school fees, uniforms, and supplies, thereby facilitating children's school enrolment. Internal remittances, although smaller in value, may be more frequent and more integrated into family support systems. As such, they help households meet ongoing educational expenses and cover day-to-day needs, thereby reducing the risk of school dropout caused by persistent economic pressures (Clément, 2011; Bansak et al., 2015). In this sense, internal remittances act more like a safety net, helping to keep children in school longer at the primary level, even if their immediate effect on school entry is more limited than that of external remittances.

Beyond the effects of remittances on children's education at both the primary and secondary levels, Table 4 reveals other interesting findings. It shows that children's individual characteristics significantly influence their educational outcomes. At the primary level, younger children are more likely to be enrolled in school than older ones. In contrast, at the secondary level, younger children are less likely to be enrolled. This reflects the normal progression through the education system in Burkina Faso and many other countries, where younger children are typically in primary school, while older children are more likely to be in secondary school. Regarding school dropout, the results also indicate that younger children are more exposed to the risk of dropping out, at both the primary and secondary levels. This may be due to their greater emotional vulnerability or limited ability to understand the long-term value of education and the consequences of leaving school early (Abdulloev et al., 2020). Furthermore, boys seem to be at greater risk of dropping out at the primary level. This can be explained by traditional gender roles assigned to male children, particularly the expectation to contribute to household labour, which may affect their school attendance (Bhalotra & Tzannatos, 2003).

In terms of household characteristics, children living in households with a larger number of inactive members are less likely to be enrolled in primary school. This may be due to stronger economic constraints or the need to use children as replacement labour (Mawuena & Okey, 2021). However, these same children appear to have a lower risk of dropping out, possibly because inactive members, such as grandparents or other non-working adults at home, may contribute more to child supervision and offer support that encourages school persistence (Huisman and Smits, 2009). The results also show that children from households headed by a younger household head are less likely to be enrolled in primary school, which may reflect less economic stability or limited experience in managing family responsibilities. Nevertheless, these children also face a lower risk of dropping out, possibly due to higher expectations or a stronger personal commitment to education on the part of the household head. At the secondary level, younger household heads are associated with a higher probability of school enrolment and a lower risk of dropout, which may reflect more modern and progressive attitudes toward education (Bourguignon & Ferreira, 2003).

Additionally, the results reveal that children from households where the head has received formal education are more likely to be enrolled in primary school. This confirms the idea that parental education is often associated with a greater emphasis on children's schooling (Raut and Tanaka, 2018). Conversely, when the household head is male, children are less likely to be enrolled at both the primary and secondary levels and face a higher risk of dropping out at the secondary level. This may reflect gender differences in educational priorities, as female household heads are often more inclined to invest in their children's education (Gyimah-Brempong & Asiedu, 2015; Fambeu, 2021). The results also show that children living in households with access to credit are more likely to be enrolled in primary school and have a lower risk of dropping out. This supports the role of credit as a mechanism for reducing household budget constraints (Guarcello et al., 2010). The findings confirm that children from low-income households are less likely to be enrolled in school (Basu & Van, 1998; Filmer & Pritchett, 2001).

Table 4: Effect of remittances on educational outcomes

| Variables | School enrolment | | School dropout | |
|---|---|---|---|---|
| | Primary school | Secondary school | Primary school | Secondary school |
| | (1) | (2) | (3) | (4) |
| Internal remittance | 0.164*** | -0.069*** | -0.086*** | 0.166*** |
| | (0.055) | (0.026) | (0.024) | (0.034) |
| External remittance | 0.195* | 0.059* | -0.075** | -0.069* |
| | (0.110) | (0.036) | (0.035) | (0.038) |
| Age of children | 0.141*** | -0.037*** | 0.072*** | 0.071*** |
| | (0.013) | (0.006) | (0.002) | (0.006) |
| Age of children squared | -0.396*** | 0.014 | -0.078*** | -0.062*** |
| | (0.054) | (0.009) | (0.002) | (0.008) |
| Gender of children | -0.012 | 0.016 | 0.029*** | -0.019 |
| | (0.014) | (0.016) | (0.010) | (0.019) |
| Household dependency ratio | -0.029*** | 0.007 | -0.030*** | -0.025 |
| | (0.009) | (0.010) | (0.007) | (0.016) |
| Age of household head | -0.005** | 0.008** | -0.003** | -0.021*** |
| | (0.002) | (0.003) | (0.002) | (0.004) |
| Age of household head squared | 0.003 | -0.004 | 0.003** | 0.016*** |
| | (0.002) | (0.003) | (0.001) | (0.004) |
| Distance to school | 0.004 | 0.003 | -0.003 | -0.001 |
| | (0.011) | (0.009) | (0.008) | (0.013) |
| Education of household head | 0.148*** | 0.011 | 0.002 | -0.005 |
| | (0.017) | (0.018) | (0.012) | (0.022) |
| Gender of household head | -0.117*** | -0.090*** | -0.015 | 0.104*** |
| | (0.036) | (0.024) | (0.023) | (0.039) |
| Credit received | 0.077*** | -0.003 | -0.030* | -0.011 |
| | (0.017) | (0.023) | (0.016) | (0.024) |
| Household income | -0.039** | 0.013 | 0.014 | -0.017 |
| | (0.015) | (0.011) | (0.017) | (0.017) |
| Household income squared | 6.476e-4 | -3.337e-4 | -0.005 | 4.262e-4 |
| | (4.074e-4) | (3.007e-4) | (0.003) | (4.465e-4) |
| Constant | -0.078 | 1.322*** | -0.404*** | -0.333** |

| Variables | School enrolment | | School dropout | |
|---|---|---|---|---|
| | Primary school | Secondary school | Primary school | Secondary school |
| | (1) | (2) | (3) | (4) |
| | (0.099) | (0.117) | (0.048) | (0.161) |
| Lnsigma | -0.982*** | -1.640*** | -1.295*** | -1.601*** |
| | (0.145) | (0.079) | (0.045) | (0.157) |
| Lambda for internal remittance | -0.176*** | 0.180*** | 0.066*** | -0.282*** |
| | (0.059) | (0.026) | (0.022) | (0.025) |
| Lambda for external remittance | -0.168 | -0.046 | 0.080** | 0.031 |
| | (0.133) | (0.031) | (0.035) | (0.031) |
| Wald Chi2 | 2128.45*** | 585.81*** | 14642.13*** | 3546.33*** |
| Log pseudolikelihood | -4294.321 | -673.153 | -2429.199 | -1162.547 |
| Observations | 3,879 | 1,085 | 3,478 | 1,350 |

Notes*:* *** significant at the 1% level, ** significant at the 5% level, * significant at the 10% level. Robust standard errors in parentheses are clustered at the household level to account for the presence of multiple children within the same household. The first-stage results are presented in the appendix (Table A1).

Source: Authors

## Conclusion

Given that Burkina Faso is among the countries with the lowest levels of human capital in the world, investing in education, a key component of human capital, has become a necessity. This article aims to investigate the role that migrant remittances can play as a mechanism for easing the economic constraints of households, thereby improving children's education in rural areas of Burkina Faso. To conduct this analysis, the study uses a multinomial endogenous treatment effect model applied to data from the 2017 National Land Management Program survey, which covers 6,224 children across 1,827 rural households in Burkina Faso.

The analysis reveals that both internal and external migrant remittances significantly contribute to improving children's education at the primary level, by increasing school enrolment and reducing dropout risk. At the secondary level, however, external remittances are found to positively influence education by both enhancing enrolment and reducing dropout, while internal remittances tend to reduce enrolment and increase dropout risk at this level. Additionally, the findings indicate that, at the primary level, external remittances have the greatest impact on school enrolment, whereas internal remittances have the strongest effect in reducing school dropout.

Given the crucial role that remittances play in improving the education of children in rural households, who typically face severe economic constraints, public authorities should implement awareness programs targeting migrants and remittance-receiving households. These programs should inform them about the benefits of allocating a portion of the funds sent and received to children's education, particularly in terms of enhancing the household's long-term economic prospects through human capital development. Furthermore, it is essential to expand educational opportunities by strengthening infrastructure, especially at the secondary level, where higher costs discourage some households receiving internal remittances from investing in education. Improving access and perceptions of the returns to secondary education would help increase school attendance and reduce dropout rates.

## Credit Authorship Contribution Statement

All authors contributed to the conceptualization and design of the study. The investigation, formal analysis, and original draft were carried out by Kalé Julienne Millogo, and all authors participated in the review and editing of the manuscript. The supervision of the work was under the direction of Coffie Francis José N'guessan and Pam Zahonogo. All authors have read and approved the final version of the manuscript for publication.

Conflict of Interest Statement

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Data Availability Statement

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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