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Effect of Migrant Remittances on Well-Being in Sub-Saharan Africa: Does Socio-Economic Characteristics Matter

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Abstract *:*

This article analyzes the effect of migrant remittances on well-being in sub-Saharan Africa. To do so, a panel of 41 countries was studied over the period from 2007 to 2023. Methodologically, two econometric approaches were used: the generalized method of moments (GMM) and moment quantile estimation (MMQR). The results show that migrant remittances contribute significantly to improving well-being in the region. However, their effect is more pronounced in countries with low or intermediate levels of well-being compared to those where well-being is already high. This asymmetry suggests that remittances play a more crucial role in fragile socioeconomic contexts.

Keywords: Africa, Remittances, well-being, Sub-Saharan Africa

JEL Classification: F22, O15, J61, C33, F24

1. INTRODUCTION

In pursuit of the Sustainable Development Goals (SDGs), developing countries aspire to significantly improve the living conditions of their populations by placing well-being at the heart of their priorities. However, this ambition faces major structural constraints, including low mobilization of domestic resources and the growing burden of debt (Daly et al., 2022; Folarin and Raifu, 2023; Ajeigbe et al., 2024). Faced with these limitations, many sub-Saharan African countries are turning to an alternative, often overlooked source of financing: remittances from migrants. Although private in nature, these financial transfers play an increasingly central role in local economies and raise important questions about their real impact on the well-being of beneficiary populations.

According to the literature, the effect of migrant remittances on economic development and the well-being of populations depends largely on how they are used (Keho, 2024). In this regard, two diametrically opposed schools of thought have emerged. On the one hand, some researchers argue that these transfers are a powerful lever for improving the well-being of populations in recipient countries. Indeed, they enable households to finance essential everyday consumption, education, and healthcare expenses, and even to support productive investment projects that are likely to generate long-term income (Azizi, 2018; Huay et al., 2019). These often stable and countercyclical financial flows thus act as a social safety net, particularly in contexts marked by economic instability or inadequate public policies (Gupta et al., 2009; Jidoud, 2015).

On the other hand, a more critical view emphasizes that remittances from migrants can sometimes have adverse effects by not necessarily generating the expected results. According to proponents of this approach, these financial flows carry significant risks, such as increasing households' dependence on external resources, reducing incentives to engage in local economic activities, or even causing macroeconomic imbalances, particularly real exchange rate appreciation (Baldé, 2011; Jadotte and Ramos, 2016; Carare et al., 2025). Furthermore, when these funds are mainly directed towards immediate consumption rather than investment, their contribution to sustainable development remains limited (Mohammed and Karagöl, 2023).

The lack of consensus on this relationship reflects the complexity of the issue. Between optimistic perspectives and critical approaches, analyses remain fragmented and often depend on national contexts, methodologies used, or indicators selected.

This diversity of interpretations necessitates an in-depth and contextualized exploration of the issue. It is with this in mind that the present study aims to shed light on the conditions under which migrant remittances can truly contribute to improving well-being, taking into account the socio-economic specificities of the region. Thus, this study has a dual objective. On the one hand, it aims to analyze the effect of migrant remittances on the well-being of populations in sub-Saharan Africa. On the other hand, it seeks to explore the heterogeneity of this effect according to the initial level of well-being in the recipient countries, in order to determine whether the impact of remittances varies according to socio-economic contexts.

This study is interesting for two reasons. First, it differs from previous work (Gupta et al., 2009; Huay et al., 2019; Mohammed, 2022; Daly et al., 2022), which mainly relied on traditional indicators such as economic growth, the human development index, and even poverty. Instead, this research uses the prosperity index developed by the Legatum Institute, a more comprehensive tool that integrates economic, social, and institutional dimensions of well-being. This indicator was chosen because it provides a more comprehensive and nuanced reflection of development and well-being dynamics in sub-Saharan Africa, taking into account dimensions that are often overlooked by traditional indicators.

Furthermore, in most existing studies, the methods used are limited to estimating the average effect of remittances on well-being. However, in a context characterized by significant heterogeneity in well-being levels between countries, failing to take this diversity into account can lead to biased interpretations and conclusions that are not representative of reality. To overcome this limitation, we examine the differentiated effects of migrant remittances on the overall distribution of well-being. This approach highlights variations in impact according to initial levels of well-being, thus offering a more nuanced, rigorous, and relevant interpretation of the dynamics at work.

Methodologically, this study uses two main approaches: the system GMM estimator proposed by Blundell and Bond (1998), and the moment quantile method (MMQR) developed by Machado and Silva (2019). The use of the GMM estimator is justified by the structure of the panel, which is characterized by a greater individual dimension than the temporal dimension. As for the MMQR method, it has the advantage of capturing the heterogeneous effects of the explanatory variables throughout the conditional distribution of the dependent variable.

The rest of the article is structured as follows: Section 2 is devoted to a review of the literature, Section 3 details the methodological framework used, and Section 4 presents the data analysis and discussion of the results. Section 5 concludes by highlighting the main implications of the study.

2. LITERATURE REVIEW

The link between migrant remittances and well-being has attracted growing interest in economic literature, giving rise to numerous empirical studies. Gupta et al. (2009) analyze the impact of these transfers on poverty and financial development using a sample of 76 countries, including 24 in sub-Saharan Africa. Their results indicate that remittances contribute significantly to poverty reduction while stimulating the development of the financial sector. From an economic growth perspective, Matuzeviciute and Butkus (2016) examine the effect of remittances, taking into account the level of development of the countries concerned. They conclude that, in general, these flows have a positive impact on long-term economic growth, but that this effect varies according to the degree of development of the countries and the relative importance of transfers in the national economy.

Using a panel of developing countries over the period 1980-2014, Huay et al. (2019) assess the effect of remittances on human development using the GMM method. Their analysis reveals a statistically significant and positive effect, as a 10% increase in remittances leads to an increase of approximately 0.016% in the level of human development. In the specific context of South Asian countries, Sahoo et al. (2020) highlight the positive contribution of remittances to well-being indicators. Using FMOLS and DOLS methods, they confirm that these financial flows improve human development in the region. Finally, Cazachevici et al. (2020), through a meta-analysis combining several empirical studies, conclude that the effect of remittances on economic growth is generally

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positive, albeit moderate in magnitude. They also point out that the benefits associated with these transfers vary by region: the effects are more pronounced in Asia, while they appear to be less significant in Africa.

Contrary to studies that highlight a positive relationship, other studies have reached opposite conclusions. Daly et al. (2022), in an analysis covering 24 developing countries between 2002 and 2018, examined the effect of remittances on economic growth and human development. The results obtained using the ARDL model indicate that remittances slow down both growth and human development. Similarly, Sutradhar (2020) looks at several Asian countries over the period 1977–2016 and finds marked heterogeneity in the results. While remittances reduce economic growth in Bangladesh, Pakistan, and Sri Lanka, they have a positive effect in India. These findings suggest that the effect of remittances depends heavily on national contexts and prevailing economic policies. Finally, Ngubane et al. (2025) analyze the effect of migrant remittances on consumption and investment in sub-Saharan African countries between 1992 and 2022, distinguishing between resource-intensive and less resource-intensive economies. Their results show a negative effect on consumption and a non-significant effect on domestic investment in the short term. Thus, in less resource-rich countries, remittances do not appear to be a substantial source of investment or a lever for consumption capable of sustainably stimulating economic growth.

Beyond studies that examine only the direct link between migrant remittances and well-being, several studies highlight the decisive role of the institutional context and level of financial development. Mohammed (2022) uses the GMM method to assess the combined effect of migrant remittances and institutional quality on human development in sub-Saharan Africa. He shows that remittances promote human development in the region. However, this effect appears to be more pronounced in countries with low institutional quality, while it tends to be weaker in economies with stronger institutions. Similarly, Nepal et al. (2020) analyze the effect of migrant remittances on economic growth in 16 Asian countries between 2002 and 2016. By using a GMM, their results confirm the positive effect of remittances on economic growth. They also show that this effect is reinforced when remittances interact with institutional quality and the level of financial development. Keho (2024) studies the relationship between remittances, financial development, and domestic investment in 10 sub-Saharan African countries over the period 1975–2019. Using the PMG estimator, he highlights a favorable effect of remittances and financial development on domestic investment. Analysis of the interactions between these two factors also reveals complementarity, suggesting that remittances and financial development act jointly to stimulate domestic investment.

3. STUDY METHODOLOGY

In this section, we present the study model, a description of the variables and their sources, and the methodological approaches adopted.

3.1. Study model

The objective of this study is to analyze the effect of migrant remittances on well-being in sub-Saharan Africa. To this end, we use a dynamic approach that takes into account the persistence of well-being over time. The model includes remittances as a variable of interest, as well as a set of control variables. The specification is as follows:

$$PI_{it} = \alpha_0 + \alpha_1 PI_{it-1} + \alpha_2 REMIT_{it} + \sum_{j=3}^{p} \alpha_J X_{ijt} + \varepsilon_{it} \quad (1)$$

In this equation, well-being, the dependent variable, is measured by the prosperity index (PI), while PI_{it-1} represents its value delayed by one period. The variable of interest is REMIT, which captures remittances from migrants. The X matrix includes the following control variables: electricity access rate (ELECT), financial development (FD), industrial value added (INDUS), trade globalization (GLOBAL), gross domestic product (GDP), and several institutional indicators, namely government effectiveness (GOVEFF); political stability (POLSTAB); corruption control (CORRUPTION); regulatory quality (QREG); rule of law (RULLAW); and finally voice and accountability (VOICEACC). The indices i and t refer to countries and years, respectively, while the coefficients $\alpha_o, \ldots\ldots \alpha_j$ refer to the parameters to be estimated. Finally, ε represents the error term.

3.2. Description of variables and data sources

In this study, well-being is measured using the Prosperity Index (PI) developed by the Legatum Institute in London, which is preferred to the Human Development Index. While the HDI focuses primarily on health, education, and income, the Prosperity Index offers a more comprehensive approach. It takes into account not only economic wealth, but also the social, institutional, and human dimensions that determine quality of life. The index is based on twelve pillars grouped into three main areas: inclusive institutions, open economies, and empowered people (Legatum Institute Report, 2023). It is measured on a scale of 0 to 100: a value close to 0 indicates a low level of prosperity (and therefore well-being), while a value close to 100 reflects a significant improvement in prosperity and well-being.

The variables of interest, namely remittances from migrants (REMIT), are now an essential source of income for most sub-Saharan African countries, particularly in a context characterized by limited mobilization of domestic resources. The literature on the subject highlights contrasting theoretical findings regarding their impact on household well-being. On the one hand, some authors, such as Bettin and Zazzaro (2012), point out that these transfers may not generate the expected effect if their use is limited to current consumption or leisure spending. On the other hand, when directed towards financing productive activities, such as education, health, or income-generating investments, migrant remittances are likely to significantly improve the well-being of beneficiaries (Drabo and Ebeke, 2011; Huay et al., 2019; Keho, 2024). In light of this research, the expected effect of the sign of the remittance coefficient on household well-being is therefore ambiguous.

Access to electricity (ELECT) is included in the model because of the fundamental role that energy plays in all economic activities. However, Africa remains the continent with the poorest access to electricity. According to Lawal et al. (2020), electricity is an essential component of economic activity, promoting rapid and sustained industrial growth, technological progress, and job creation. Therefore, this variable is expected to have a positive effect on the well-being of populations.

Financial development (FD) is measured here by the volume of credit granted to the private sector. The financial sector plays a central role in the functioning of the economy by facilitating access to resources that are essential for productive investment and the financing of economic activities (Hassan et al., 2011). A developed financial system not only mobilizes local savings and allocates capital efficiently, but also reduces transaction costs and investment risks (Greenwood and Jovanovic, 1990). By improving access to credit and financial services, financial development helps to stimulate economic growth, create jobs, and support entrepreneurship (Valickova et al., 2015). As a result, financial development is expected to have a positive effect on household well-being by promoting higher incomes, economic security, and quality of life.

The contribution of the secondary sector is measured through industrial value added (INDUS), which is a relevant indicator of structural transformation dynamics. Indeed, Tiako (2024) emphasizes that high value-added activities are the preferred means of ensuring sustainable improvement in the standard of living of populations. In the same vein, Enongene (2024) indicates that industrialization occurs through a gradual shift from an economy based on labor-intensive production methods to capital-intensive modes of production, which increases overall productivity. Thus, the analysis of industrial value added is not limited to a simple sectoral indicator, but reflects a broader process of economic transformation, the expected outcome of which is a significant improvement in well-being.

Trade globalization (GLOBAL) is used in this study to assess the effect of countries' openness on well-being. Traditionally, the literature measures trade openness by the ratio of the volume of trade in goods and services to gross domestic product. However, the indicator used here differs from this traditional approach in that it includes not only trade volume, but also trade taxes, customs tariffs, trade agreements, and related regulations. Theoretically, the results regarding the impact of globalization remain mixed (Keho, 2017). On the one hand, some studies emphasize that trade globalization contributes to improved well-being by facilitating access to a variety of goods and services, promoting a more efficient allocation of resources, and stimulating total factor productivity through the diffusion of technology and the dissemination of

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knowledge. On the other hand, several authors argue that trade globalization can have negative effects, particularly in developing countries, due to their specialization in the production of low value-added or low-quality goods, making them particularly vulnerable to terms of trade shocks (Haussmann et al., 2007). The expected effect of this variable therefore appears to be mixed.

Growth in gross domestic product (GDP) is one of the most commonly used indicators for assessing a country's economic performance. It reflects the change in wealth created from one year to the next and reflects the overall dynamics of economic activity. An improvement in the economic growth rate is generally perceived as an essential driver of well-being insofar as it promotes job creation, leads to higher incomes, and contributes to expanding economic opportunities for populations (Cornilleau, 2006). However, the literature emphasizes that economic growth is not always synonymous with social progress. In some contexts, it can be accompanied by relative or absolute impoverishment, particularly when the fruits of growth are unevenly distributed or when they are acquired at the expense of the environment and sustainability (Stiglitz, 2016). The expected effect of this variable therefore remains mixed.

Finally, the quality of institutions is a key determinant of well-being. It refers to the set of regulatory and legal provisions in force that underpin the organization and functioning of a country (North, 1990). In this study, it is assessed through six institutional dimensions: government effectiveness (GOVEFF), political stability (POLSTAB), control of corruption (CORRUPTION), regulatory quality (QREG), rule of law (RULLAW), and voice and accountability (VOICEACC). A high-quality institutional environment promotes well-being by creating a framework conducive to investment, strengthening trust between economic and political actors, ensuring more efficient resource allocation, and providing effective protection of citizens' rights. Conversely, a low-quality institutional environment can generate uncertainty, discourage investment, encourage corruption, and limit equitable access to economic and social opportunities (Butkiewicz and Yanikkaya, 2006). In light of the literature, we postulate a positive effect of this variable on well-being. The summary of variables and expected signs are listed in the table 1.

Table 1: Summary of variables and expected signs

Definitions	Sources	Predictions
Prosperity Index	Legatum Institut (2024)	
Migrant remittances	WDI (2025)	+/-
Electricity access rate	WDI (2025)	+
Financial development	WDI (2025)	+
Industrial value added	WDI (2025)	+
Trade globalization	KOF Swiss Economic Insitute (2025)	+/-
Gross domestic product	WDI (2025)	+/-
Institution	WDI (2025)	+/-

Source: Authors based on literature

This study covers a sample of 41 countries in sub-Saharan Africa and spans the period 2007-2023, i.e. 17 years. The data used comes mainly from World Development Indicators (WDI, 2025), the Legatum Institute (2024), and the KOF Swiss Economic Institute (2025).

3.3. Estimation method

Methodologically, two approaches are used: the system GMM of Blundell and Bond (1998) and the quantile moments method of Machado and Silva (2019).

System GMM

In equation (1) above, the introduction of the lagged dependent variable among the explanatory variables creates an endogeneity problem that fixed or random effects models cannot correct. In line with the literature, the GMM estimator appears to be an appropriate approach, particularly suited to micropanel data (N > T). With this in mind, Arellano and Bond (1991) propose the first difference GMM estimator, as presented in equation (2) below:

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$$\Delta PI_{it} = \alpha_1 \Delta PI_{it-1} + \alpha_2 \Delta REMIT_{it} + \sum_{j=3}^{p} \alpha_j \Delta X_{ijt} + \Delta \varepsilon_{it} \quad (2)$$

This approach allows potential endogeneity issues to be addressed by using lagged values of endogenous explanatory variables as instruments, thereby ensuring consistent parameter estimates. Subsequently, Arellano and Bover (1995) and Blundell and Bond (1998) further developed this model by proposing the system GMM estimator. The system GMM estimator thus combines the level equation (1) and the difference equation (2). In the difference equation, the lagged level explanatory variables are used as instruments, while in the level equation, the lagged difference explanatory variables are used as instruments. This approach has the advantage of providing more efficient estimates than those obtained by the classic difference GMM, thanks to the use of additional instruments.

Furthermore, in order to ensure the robustness of the results, it is imperative to ensure that the condition of no autocorrelation of the error terms is strictly respected. With regard to the validation of the instruments used, the Hansen test will be used to simultaneously assess the relevance of the instruments and the overall validity of the model specification.

Quantile Moments Method (MMQR)

While the GMM estimator allows the dynamics of well-being to be incorporated into econometric analysis, it only provides an average estimate of the effect of remittances. However, this average approach can mask significant disparities in levels of well-being. In order to better understand the heterogeneity of the effects of remittances, we use the Quantile Moments Method (QMM) developed by Machado and Silva (2019). This approach makes it possible to estimate the impact of migrant remittances on the entire distribution of well-being, thus offering a more nuanced and richer understanding of the mechanisms at work.

By allowing for individual fixed effects, the MMQR method examines the effect of the conditional heterogeneous covariance of explanatory variables on the overall distribution of well-being. The main advantages of this method are that it takes into account possible endogenous variables among the explanatory variables. It remains appropriate for individual effect panels, produces reliable estimates in the case of nonlinear models, and takes into account possible asymmetries. Although fixed effects cannot account for heterogeneity, the MMQR method addresses this issue due to its ability to produce heterogeneous estimates across the entire distribution. Furthermore, the heterogeneous values of the coefficients explicitly confirm that MMQR addresses the issue of heterogeneity. Therefore, the MMQR method is implemented because of its ability to address heterogeneity and endogeneity by considering the asymmetric and nonlinear association between the dependent variable and the explanatory variables. Thus, the conditional quantiles $QY(\tau/X)$ are estimated as follows:

$$Y_{it} = \alpha_i + X_{it}^{'}\beta + (\delta_i + Z_{it}^{'}\gamma)U_{it} \quad (3)$$

The probability$P\{\delta_i + Z_{it}^{'}\gamma \succ 0\} = 1$, $(\alpha, \beta, \delta, \gamma)'$ the parameters to be estimated. The discrete fixed effects i are named by (α_i, δ_i), $i = 1, \ldots\ldots, n$, and the k-vector of recognized elements of X is indicated by Z which have differentiable conversions with the component *l* known by:

$$Z_l = Z_l(X), \quad l = 1, \ldots\ldots, k \quad (4)$$

All $X_{it}^{'}$ are independently and identically distributed (i.i.d.) and are independent of time (t). $U_{it}$is distributed independently and identically among individuals(i) and over time (t), and is orthogonal to $X_{it}^{'}$ and normalized to satisfy the moment conditions. This formulation is as follows:

$$Q_y(\tau/X_{it}) = (\alpha_i + \delta_i q(\tau)) + X_{it}^{'} + Z_{it}^{'}\gamma q(\tau) \quad (5)$$

where$X_{it}^{'}$represents the vector of explanatory variables. The quantile distribution of the dependent variable (well-being) is represented by $Q_y(\tau/X_{it})$ and this distribution postulates that the structural quantiles are distributed to the dependent variable Y_{it} based on the distribution (location) of the explanatory variables $X_{it}^{'}$. Individual fixed effects(i) and quantile fixed effects (τ) are demonstrated by the scalar coefficient:

$$-\alpha_i(\tau) = \alpha_i + \delta_i q(\tau) \quad (6)$$

The constant does not represent the individual effect, unlike the typical effects of fixed least squares. These parameters are invariant over time with heterogeneous effects that are likely to diverge along the conditional distribution quantiles of the endogenous variable. The quantile of the sample t represented by$q(\tau)$ can be evaluated by solving the

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resulting optimization problem written in equation (6):

$$min_q \sum_i \sum_t \rho_\tau(R_{it} - (\delta_i + Z_{it}^{'}\gamma)q) \quad (7)$$

where $\rho_\tau(A) = (\tau - 1)AI\{A \leq 0\}TAI\{A \succ 0\}$ indicates the control function. The empirical model equation is as follows:

$$PI_{it}(\tau_k|\, \alpha_i, x_{it}) = \alpha_0 + \alpha_{1\tau}REMIT_{it} + \alpha_{2\tau}ELECT_{it} + \alpha_{3\tau}FD_{it} + \alpha_{4\tau}INDUS_{it} + \alpha_{5\tau}GLOBAL_{it} + \alpha_{6\tau}GDP_{it} + \alpha_{7\tau}GOV\_EFF_{it} \quad (8)$$

4. RESULTS AND INTERPRETATIONS

This section is dedicated to preliminary data analysis and commentary on the results.

4.1. Preliminary data analysis

Before analyzing the results, it is essential to conduct a preliminary exploration of the data. This step includes examining the descriptive statistics of the variables and analyzing the correlation matrix. Table 2 below presents the descriptive statistics of the variables.

Table 2: Descriptive statistics

Variables	Observation	Mean	SD	Min	Max
PI	697	46.542	6.639	33.366	65.952
REMIT	696	3.973	5.346	0.0001	37.937
ELECT	697	45.736	25.816	1.3	100
FD	696	22.662	22.385	2.170	142.422
INDUS	697	24.633	11.049	4.871	66.179
GLOBAL	697	35.362	16.362	0.760	90.019
GDP	697	4.094	4.293	-29.433	19.675
GOVEFF	697	-0.705	0.6075	-1.977	1.150
POLSTAB	697	-0.486	0.842	-2.729	1.201
CORRUPTION	697	-0.563	0.646	-1.599	1.698
QREG	697	-0.600	0.553	-2.080	1.196
RULLAW	697	-0.607	0.584	-1.870	1.023
VOICEACC	697	-0.467	0.678	-1.848	0.974

Source: Authors based on data from WDI (2025); KOF Swiss Economic Institute (2025); Legatum Institute (2024)

The descriptive analysis presented in Table 2 highlights significant disparities. The prosperity index shows an average of 46.54%, ranging from 33.37 to 65.95, reflecting notable differences in well-being between the countries observed. Remittances from migrants are relatively low on average (3.97

% of GDP), but with a high dispersion (standard deviation of 5.35) and a maximum of 37.94%, suggesting that in some countries, remittances are a major economic resource. The average rate of access to electricity is 45.73%, but varies greatly between 1.3% and 100%, revealing significant inequalities. Financial development, measured by credit to the private sector, averages 22.66% of GDP, but with a very marked dispersion (standard deviation of 22.38) and a maximum value of 142.42%, reflecting a high degree of heterogeneity in the financial systems in the region studied.

With regard to structural transformation, the average value of 24.63% of GDP reflects the industry's still limited contribution to value added, despite significant differences between countries (minimum 4.87% and maximum 66.18%). Trade globalization averages 35.36%, with significant variability, confirming that integration into world trade differs significantly from one country to another. The gross domestic product growth rate averages 4.09%, but with extremes ranging from -29.43% to 19.68%, highlighting very contrasting economic performances, ranging from deep recession to dynamic growth over the study period. Finally, the examination of the six institutional variables shows negative averages overall, indicating relatively low institutional quality in all the countries studied.

Table 3 presents the correlation matrix of the variables included in the model. This matrix allows us to examine the strength and direction of the linear relationships between the variables.

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Table 3 : Correlation Matrix

	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]
[1]PI	1												
[2]REMIT	-0.041	1											
[3]ELECT	0.686	0.011	1										
[4]FD	0.653	-0.104	0.492	1									
[5]INDUS	-0.130	-0.209	0.051	-0.073	1								
[6]GLOBAL	0.610	-0.104	0.318	0.569	0.048	1							
[7]GOVEFF	0.870	-0.190	0.484	0.618	-0.066	0.627	1						
[8]POLSTAB	0.718	0.053	0.382	0.371	0.023	0.430	0.636	1					
[9]CORRUPTION	0.809	0.034	0.425	0.475	-0.149	0.501	0.854	0.685	1				
[10]QREG	0.831	-0.175	0.430	0.625	-0.065	0.591	0.901	0.630	0.800	1			
[11]RULLAW	0.864	-0.057	0.456	0.575	-0.093	0.563	0.909	0.709	0.884	0.898	1		
[12]VOICEACC	0.749	0.113	0.325	0.543	-0.161	0.507	0.664	0.627	0.680	0.704	0.759	1	
[12]GDP	-0.038	-0.047	-0.133	-0.106	-0.072	-0.104	0.057	0.018	0.056	0.038	0.026	0.0064	1

Source: Authors based on data from WDI (2025); KOF Swiss Economic Institute (2025); Legatum Institute (2024)

Analysis of Table 3 reveals a strong positive linear correlation between institutional variables and the prosperity index associated with well-being. This relationship suggests that the quality of institutions is a major determinant of well-being and that they play a particularly relevant explanatory role in the dynamics of prosperity. However, these variables are also highly interdependent, which can lead to multicollinearity. To reduce this bias, several estimates will be made by varying the combinations of variables included in the models. Furthermore, there is a negative relationship between migrant remittances and the level of well-being. This relationship shows that, on average, an increase in remittances is associated with a decrease in well-being, when other explanatory variables are not taken into account.

4.2. Interpretation of results

This section is devoted to analyzing the results obtained from econometric estimates. Table 4 presents the results obtained from the GMM system estimate.

Table 4: Results of the GMM method

Variables	PI	PI	PI	PI	PI	PI
L.PI	0.906*** (0.024)	0.947*** (0.018)	0.895*** (0.022)	0.897*** (0.019)	0.836*** (0.021)	0.958*** (0.017)
REMIT	0.021** (0.008)	0.012* (0.006)	0.020** (0.009)	0.020** (0.010)	0.044*** (0.011)	0.012** (0.006)
ELECT	0.004* (0.002)	0.0009 (0. 001)	0.009*** (0.002)	0.010*** (0.003)	0.020 (0.003)	0.0004 (0.001)
FD	0.009*** (0.002)	0.008*** (0.002)	0.018*** (0.005)	0.004 (0.005)	0.003 (0.004)	0.006** (0.002)
INDUS	-0.015*** (0.005)	-0.013*** (0.003)	0.003 (0.009)	-0.004 (0.005)	-0.001 (0.005)	-0.014*** (0.005)
GLOBAL	-0.003 (0.004)	0.003 (0.002)	0.007* (0.003)	-0.005 (0.004)	-0.001 (0.003)	0.0007 (0.003)
GDP	-0.006 (0.007)	-0.002 (0.007)	0.013 (0.009)	-0.010 (0.006)	-0.006 (0.007)	-0.004 (0.006)
GOVEFF	0.525** (0.229)					
POLSTAB		0.082 (0.070)				
CORRUPTION			0.470*** (0.126)			
QREG				0.974*** (0.216)		
RULELAW					1.555*** (0.246)	
VOICEACC						0.073 (0.140)
CONSTANT	4.913***	2.564***	3.945***	5.178***	7.549***	2.258***

	(1.266)	(0.951)	(1.036)	(0.903)	(0.936)	(0.792)
AR (1)	0.000	0.000	0.000	0.000	0.000	0.000
AR (2)	0.545	0.293	0.148	0.531	0.429	0.329
Hansen J-test	0.949	0.939	0.981	0.989	0.994	0.840

Note: Standard errors in parentheses and * p<0.1; **p<0.05; ***p<0.01

Source: Authors based on data from WDI (2025); KOF Swiss Economic Institute (2025); Legatum Institute (2024)

Table 4 presents six separate estimates, each incorporating a specific institutional variable. Across all models, the lagged prosperity index variable consistently appears to be significant and positively correlated with the current prosperity index. This result confirms the dynamic nature of the relationship, suggesting that the level of well-being in one period positively influences that of the following period.

The variable of interest, namely migrant remittances, is significant in the various estimates and has a positive influence on the prosperity index, an indicator of well-being. This result suggests that an increase in remittances is generally associated with an improvement in the level of well-being in recipient countries. This finding can be explained by several mechanisms. On the one hand, remittances are an important source of income for households, enabling them to increase their consumption, invest in education, health, or housing, and strengthen their resilience to economic shocks (Drabo and Ebeke, 2011; Bettin and Zazzaro 2012; Gyimah-Brempong and Asiedu, 2014; Keho, 2024). On the other hand, these financial flows can also stimulate the local economy by boosting domestic demand and supporting small businesses (Sahoo et al., 2020). Thus, our results are consistent with those of Huay et al. (2019), who, based on a study conducted in several developing countries, conclude that remittances contribute significantly to improving human development.

Among the control variables, the rate of access to electricity is significant and positively correlated with the well-being index. This result indicates that improved access to electricity is associated with an increase in the level of well-being. Electricity is a fundamental driver of development because it facilitates access to education (lighting, digital tools), improves sanitary conditions (refrigeration of medicines, operation of medical equipment), and stimulates economic activity (Yéo, 2020). Our results are consistent with those of Lawal et al. (2020), who used a sample of sub-Saharan African countries to show that access to electricity is a source of economic development.

Financial development is significantly and positively correlated with well-being, indicating that strengthening the financial sector's contribution to the economy is associated with improved prosperity. This result can be explained by the central role that the financial sector plays in the economic development process. By facilitating access to credit, mobilizing savings, and financing productive investments, it is an essential lever for stimulating growth and wealth creation (Hassan et al., 2011). These results corroborate the work of Sehrawat and Giri (2014), who highlighted the existence of a long-term equilibrium relationship between financial development and human development in the case of India.

Industrial value added, which captures the level of structural transformation, is significant and negatively correlated with the well-being index. This result, contrary to our expectations, indicates that an increase in industrial value added is accompanied by a decline in well-being. This observation contrasts with the conclusions of Tiako (2024) and Enongene (2022), who argue that structural transformation is a lever for sustainable development in sub-Saharan Africa. However, this paradoxical relationship could be explained by several factors. On the one hand, the structural weakness of the industrial sector is reflected in an average contribution of only 24% to GDP over the period studied. On the other hand, industrial production remains concentrated in low value-added segments, characterized by low technological intensity, limited innovation, and the absence of high-tech industries. These characteristics reduce the sector's potential impact on the creation of skilled jobs, improved incomes, and access to quality services, which are essential elements of well-being. Finally, institutional variables prove to be statistically significant and have a positive influence on the well-being index in most of the

estimated models. This result highlights the central role of good governance in promoting the well-being of populations. Improvements in institutions, whether in terms of regulatory quality, the fight against corruption, or government efficiency, create an environment more conducive to social justice, economic stability, and citizen trust. By strengthening governance mechanisms, states can promote a more equitable distribution of resources and better access to public services (Butkiewicz and Yanikkaya, 2006). This structural link between strong institutions and sustainable well-being underscores the importance of investing in institutional reforms to consolidate development gains. This finding corroborates the conclusions of Valeriani and Peluso (2011), who, in their analysis covering a panel of 181 countries around the world, also highlight the positive impact of institutional variables on development.

Table 5 shows the effect of migrant remittances according to the level of well-being.

Table 5: Results of the quantile moment method

Variables	Location	Scale	0.10	0.25	0.50	0.75	0.90
REMIT	0.086*** (0.017)	-0.003 (0.010)	0.091*** (0.027)	0.088*** (0.021)	0.085*** (0.017)	0.083*** (0.017)	0.081*** (0.020)
ELECT	0.084*** (0.004)	-0.005** (0.002)	0.093*** (0.006)	0.089*** (0.005)	0.084*** (0.004)	0.080*** (0.004)	0.076*** (0.004)
FD	0.013*** (0.004)	0.001 (0.002)	0.011 (0.007)	0.012** (0.005)	0.013*** (0.004)	0.014*** (0.004)	0.015*** (0.005)
INDUS	-0.056*** (0.008)	-0.004 (0.004)	-0.048*** (0.013)	-0.052*** (0.010)	-0.056*** (0.008)	-0.060*** (0.008)	-0.063*** (0.009)
GLOBAL	-0.037*** (0.007)	0.002 (0.004)	0.032*** (0.011)	0.034*** (0.008)	0.037*** (0.007)	0.039*** (0.007)	0.041*** (0.008)
GOVEFF	6.918*** (0.224)	-0.380*** (0.131)	7.539*** (0.352)	7.230*** (0.274)	6.875*** (0.221)	6.569*** (0.223)	6.323*** (0.259)
GDP	-0.030 (0.021)	0.004 (0.012)	-.0375 (0.334)	-0.033 (0.026)	-0.029 (0.021)	-0.026 (0.021)	-0.023 (0.024)
CONSTANT	47.09*** (0.498)	1.861 (0.292)	44.06*** (0.794)	45.57*** (0.613)	47.30*** (0.500)	48.80*** (0.498)	50.00*** (0.580)

Note: Standard errors in parentheses and * p<0.1; **p<0.05; ***p<0.01

Source: Authors based on data from WDI (2025); KOF Swiss Economic Institute (2025); Legatum Institute (2024)

Analysis of Table 5 reveals that migrant remittances have a significant and positive effect on well-being, regardless of the distribution considered. However, closer observation shows that this impact is particularly marked in the lower and median quantiles (0.10; 0.25; 0.50), while it is weaker in the upper quantiles (0.75; 0.90). This result suggests that migrant remittances contribute more to improving well-being in countries where it is relatively low or average, compared to those that are already better off. This dynamic can be explained by the fact that countries with low levels of well-being tend to have a higher proportion of migrants abroad, which generates larger financial flows to vulnerable households (Ivlevs et al., 2019; Ojeyinka and Ibukun, 2024). In these contexts, remittances play a crucial role in supporting consumption, access to basic services, and sometimes even local investment. Conversely, in countries where well-being is already high, remittances often represent a marginal supplement, with a less decisive effect on overall quality of life indicators.

5. CONCLUDING REMARKS

The objective of this article is to examine the effect of migrant remittances on well-being in sub-Saharan Africa. To this end, a panel of 41 countries covering the period 2007-2023 was used. Methodologically, two econometric approaches were implemented: the generalized method of moments (GMM) and moment quantile estimation (MMQR). The results reveal that migrant remittances contribute significantly to improving well-being in the region. However, this effect is more pronounced in countries with low or medium levels of well-being than in those where it is already relatively high. Remittances act as social safety nets by providing financial assistance to vulnerable households to protect them from poverty and shocks, and by

contributing to their social and economic inclusion. These programs are not limited to monetary support, but also include assistance for the empowerment of beneficiaries. In light of the results obtained, it is strongly recommended that sub-Saharan African countries strengthen formal remittance channels to ensure greater traceability, security, and efficiency. Formalizing these flows would not only reduce transaction costs but also broaden their economic impact. Furthermore, it is essential to put in place incentive policies aimed at directing part of these transfers towards productive investments, particularly in promising sectors such as agriculture, education, health, and local entrepreneurship. Such a strategy would help maximize the impact of remittances on people's well-being by transforming these resources into sustainable levers for socioeconomic development.

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