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Gender and migration aspirations in Nigeria: A comparative study of the states of Edo and Kaduna

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Abstract
This study examined the effect of gender on migration aspirations in the states of Kaduna and Edo, which are in Nigeria's Northern and Southern Regions respectively. The regression results showed that, in Kaduna, the effect of gender on migration aspirations was moderated by marital status: being female and married lowered migration aspirations. When I shifted the focus of the analysis to the concrete plans made to emigrate to another country, I found that being female lowered the probability of making international emigration plans. The effect was direct. These results may be explained by the patriarchal nature of society in Kaduna and the salience of gender norms: women are expected to be homemakers, and this attenuates their migration aspirations. In Edo, females did not differ from males in terms of migration aspirations; however, being female in a wealthy household reduced the probability of making international emigration plans. This suggests that households allocate more resources toward men's emigration plans than those of women. Being female and married increased the probability of making international emigration plans. The emigration plans of married women might be associational—i.e., tied to their husbands' emigration plans or driven by the desire to reunite with their husbands who have already emigrated.

Keywords
Gender, norms, Migration aspirations, Emigration plan, Kaduna, Edo, Nigeria.

JEL Classification
F22, J16, Z13

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1. Introduction

Nigeria, like most countries in Sub-Saharan Africa, has a young population. In 2021, 54 percent of Nigeria's population fell within the working age of 15 to 64. In contrast, only 2.7 percent of the population was over 65 years. This is due to a low life expectancy and a high birthrate. Nigeria had a life expectancy of 55 years in 2020, which was the fourth lowest in the world—only Lesotho, Chad, and the Central African Republic performed worse.[2] Poverty is also endemic in the country, with a survey conducted by the Nigerian National Bureau of Statistics (2020) showing that 41 percent of the population were living below the poverty line of 137,430 naira (approximately US$382) per annum in 2019. Data obtained from the Round 8 Afrobarometer survey conducted in 2020, which is representative for Nigeria's population, shows that 47 percent of Nigerians went without food at least "several times" during the past year. In the Round 9 survey conducted in 2022, the number of Nigerians who had gone without food at least "several times" had increased to 62 percent.[3]

The prevalence of poverty and the absence of economic opportunity is a major driver of migration in Nigeria, especially among young people who cannot find gainful employment (Nwosu et al. 2022; Berber and Scacco 2022; Adhikari et al. 2021; Adepoju and Van der Wiel 2010). Although many Nigerians aspire to emigrate to another country, the likelihood of these aspirations translating into actual migration depends on a combination of factors like income (especially because migration could be an expensive endeavor) and the availability of legal pathways for emigration (Adhikari et al. 2021; Carling and Schewel 2018). In Europe, for instance, there has been a decline in the number of visas issued to people from African countries, and an increase in the rejection rates of visa applications (Adhikari et al. 2021).

While country-level analysis can be insightful, it masks intracountry heterogeneities. Nigeria

[2] The population and life expectancy data can be accessed at the World Bank's "Population Estimates and Projections" database: https://datacatalog.worldbank.org/search/dataset/0037655

[3] The remaining two higher response categories on the Likert response scale are "many times" and "always." To access the Afrobarometer survey dataset visit: https://www.afrobarometer.org/

has two major regions—i.e., the Northern and Southern Regions—and the differences between them is quite stark. Southern Nigeria is socioeconomically better off than Northern Nigeria. For instance, half of Nigeria's 36 states had poverty rates below the national average of 41 percent in 2019, 16 of which were in Southern Nigeria. 17 states had poverty rates above the national average and 15 of them were in Northern Nigeria. In fact, the three poorest states that had over 85 percent of their population living in poverty were in Northern Nigeria (Nigerian National Bureau of Statistics 2020). In terms of literacy, Northern Nigeria lags behind Southern Nigeria (Nigerian National Bureau of Statistics 2010). The two regions also differ culturally, with the North having a predominantly Muslim population and the South having a predominantly Christian population. This cultural divide is rooted in Nigeria's precolonial and colonial histories (Tuki 2023). These regional differences could lead to variations in migration aspirations among the populations in the two regions.

Relying on novel survey data collected as part of the Transnational Perspectives on Migration and Integration (TRANSMIT) research project in the states of Edo and Kaduna in 2021, this study examines the effect of gender on migration aspirations among the populations in Edo and Kaduna. Because the states of Edo and Kaduna are in Nigeria's Southern and Northern Regions respectively, they illustrate the cultural and socioeconomic disparities between the larger regions in which they are situated. While the poverty headcount ratio was 43.5 percent in Kaduna in 2019, the estimate for Edo was only 13 percent (Nigerian National Bureau of Statistics 2020). The TRANSMIT data shows that the population in Kaduna is almost evenly split between Christians and Muslims, with Muslims being slightly more numerous. In Edo, Muslims constitute a minority because 90 percent of the population is Christian. Exploiting the variation between the two states, this study systematically compares the results obtained from each of them, which makes it possible to identify the correlates of migration aspirations that overlap between the two states and those that are unique to the respective locales. Given the spatial location of both states, the results obtained from each of them could, to some extent, be applied to the larger regions where

they are situated. The survey instrument administered in Edo and Kaduna are identical; the data were also collected simultaneously.

Most studies that have been conducted on migration in Nigeria tend to focus on the Southern Region, particularly Edo State (Bisong 2022; Beber and Scacco 2022; Ikuteyijo 2020; Ikuomola 2015, 2015a). This is because most irregular migrants from Nigeria who aspire to reach Europe originate from there (Vermuelen 2019; Owegie 2017; The Migrant Project 2019). Very little is known about migration and migration aspirations among the population in Northern Nigeria. Moreover, no study, to the best of my knowledge, has empirically examined the gendered dimension of migration aspirations in Nigeria's two major regions using large-N data and econometric techniques, nor has any study systematically compared the correlates of migration aspirations between both regions. This study fills these gaps. Although most migration aspirations do not lead to actual migration (International Organization for Migration 2020), it is important to study migration aspirations because they are predictors of migration behavior (Creighton 2013; De Jong 2000).

This study finds that in the state of Kaduna, the effect of gender on migration aspirations is moderated by marital status. More specifically, being female and married lowers with migration aspirations. This is likely due to the patriarchal nature of society in Kaduna, coupled with the salience of gender norms. Women are expected to be *homemakers* and men *providers*. When I shifted the focus of the analysis to the concrete plans that respondents had made to emigrate to another country, I found that being female lowered the probability of making international emigration plans. The effect was direct. This might be because society in Kaduna generally considers women to be less than men. In the case of Edo, females did not differ from males in terms of their migration aspirations; however, when it came to making international emigration plans, the effect of gender was moderated by marital status: being female and married rather increased the probability of making international emigration plans. While this finding might seem anomalous at first glance, it becomes plausible when one considers the fact that out of Nigeria's 36 states, Edo

has one of the highest international migration rates. The emigration plans of married women might be associational—i.e., tied to the emigration plans of their husbands, or driven by the desire to reunite with their husbands who have already emigrated. The regression results also showed that the effect of gender on international emigration plans was moderated by household wealth, which I proxied with land ownership. More specifically, being female and residing in wealthy household reduced the probability of making international emigration plans. A plausible explanation for this finding is that households allocate more of their resources towards men's emigration plans than those of women. This might be because wealthy households in Edo consider women's migration to be riskier than those of men, especially given women's vulnerability to sex trafficking (Adeyinka et al. 2023; Plambech 2022, 2017; Taub 2017; Hyland 2016). Moreover, since wealthy households are not in a precarious socioeconomic condition, they might weigh the risks associated with female migration alongside the potential remittances therefrom and decide that the risks outweigh the benefits.

This study contributes to the broader literature on the nexus between gender and migration, especially those that highlight the *gendered negotiations* within the household that underlie the migration decision (e.g., Paul 2015; Antman 2015; Brandén 2014; Gughaju and De Jong 2009; Pittin 1984). The rest of this study is organized as follows: Section 2 discusses the literature on the relationship between gender and migration, with a particular emphasis on the role of gender in the migration decision-making process. Section 3 operationalizes the variables that will be used to estimate the regression models and specifies the general form of the regression model. Section 4 presents the results and discusses them, while section 5 summarizes the study and concludes.

2. Gender and migration

Gender cannot be ignored if one is to have a holistic understanding of the migration process; this is because "[t]he drivers of migration impact on women and men differently. Women and men circulate distinctively, whether it be between rural and urban areas, intra-regionally or globally."

(Christou and Kofman 2022, p. 1).[4] Paul (2015) has criticized the classical "new economics of labor migration (NELM)" model on the grounds that it portrayed migration simply as a strategy by households to diversify their income stream—i.e., as an insurance against negative income shocks, while paying scant attention to the gender dynamics underlying the migration decision-making process within the household. In her "negotiated migration model," she incorporated gender into the NELM model. Her model divides the pre-migratory phase into three parts: individual-level aspirations, household-/family-level negotiation, and the migration decision. The crux of her argument was that the process of an individual's migration aspirations morphing into actual migration depended upon a series of negotiations within the household. In societies where gender norms were salient, with women portrayed as *caregivers* and men as *providers*, household resources were more likely to be channeled towards the migration aspirations of men than women. She conducted a qualitative study among 139 Filipino migrant women to understand how they navigated the restraining gender norms within their households to migrate independently. She found that while these women appeared to challenge gender norms in Filipino society, they navigated these constraints by embracing their *womanly* role; they framed their migration aspirations as obligations they had to the household as "dutiful daughters" "caring mothers and/or supportive wives," rather than as a right. They also promised to remit most of their earnings while abroad to the household to ensure its sustenance. She concluded: "Thus, even though these women migrants break gender barriers when it comes to their independent labor migration, they do so by 'doing,' rather than 'undoing,' gender." (Paul 2015, p. 271).

Antman (2015) conducted a study in Mexico where she found that households typically allocated more resources to boys than girls. However, when the head of the household—the

[4] Some scholars have highlighted the neglect of women in early studies of migration where they were often portrayed as associational migrants—i.e., having little or no agency in the migration decision-making process; when they did migrate, it was tied to the migration of their husbands who were the breadwinners of the household. This male-centered perspective has been criticized as being myopic. Some studies have focused on the "feminization of migration"—i.e., the increase in the share of women in the stock of migrants. Other studies have challenged the "feminization of migration" concept on the grounds that it portrays female migration as a recent phenomenon, which is not necessarily the case. For an overview of these debates, see Bircan and Yilmaz (2023); Boyd (2021); Christou and Kofman (2022, pp. 1–12); Hofmann and Buckley (2013), Mahler and Pessar (2006), and Choi et al. (2006).

father—emigrated to the United States, leaving behind his spouse to make decisions regarding the allocation of household resources, more resources were allocated to girls than boys. She explained her findings on the grounds of gender-based preferences where fathers (mothers) were preferential towards boys (girls). Another explanation she put forth for her finding was "that investments in girls versus boys and their associated returns are viewed differently by the head and his spouse." (p. 589). Because migration could be an expensive endeavor, and because the decision to migrate is often not made in isolation, but in conjunction with household members, the gendered allocation of resources within the household could impact both migration aspirations and the concrete plans that have been made towards actualizing this goal. As Mahapatro (2013) succinctly put it, "Since migration is a function of household decision making process, the relative status of females within household has a significant influence on it." (p. 69).

Relying on the Causes of Migration in South Africa dataset, Gughaju and De Jong (2009) found that single men and women did not differ in terms of their migration intentions; however, among the subsample of respondents who were married, men had a higher intention to migrate than women. This highlights the potential of marriage to attenuate migration aspirations, especially among women. In a study conducted in rural Thailand, De Jong (2000) found that having children and elderly dependents had a differential effect on migration aspirations among men and women: Among men, having children and elderly dependents positively correlated with migration intentions; among women, however, having children and elderly dependents negatively correlated with migration intentions. He concluded that, because men in Thai society were the breadwinners of the household, having dependents prompted them to migrate in search of better employment opportunities so they could earn more income to cater for the needs of their dependents. Women, on the other hand, were expected to stay home and take care of the children and the elderly. These findings are consistent with that of Todes (1998) conducted in the city of Newcastle in South Africa, where she found that women (especially married women) were less likely to emigrate than men because of their *caregiving* role. In a study conducted among married and cohabiting couples in

Sweden, Brandén (2014) found that women were more willing to move for the sake of their husbands' careers than men were for their wives' careers. Moreover, mothers were less likely to move for the sake of their own careers than fathers. These findings were present even when they accounted for gender egalitarian attitudes in their models. They concluded that "women seem to adapt more to men in family migration decisions." (p. 968).

Some studies on the gender-migration nexus have focused specifically on Nigeria. In a study conducted among Hausa women in the city of Katsina (in Northern Nigeria), Pittin (1984) showed how the practice of seclusion, which is imposed on women in Hausa culture, fostered their immobility: "The practice of seclusion is one which women have learned from childhood, from the time when they learned to toddle and began to make for the front door, to be sharply called back. Their brothers not only may go outside, but will probably be urged to do so." (p. 1297). She noted that when Hausa women did migrate (usually from the rural areas to the urban centers), it was often associational—for the purpose of marriage. Paradoxically, the act of marriage made them even more secluded: "Marriage is the *rite de passage* between childhood and adulthood in Hausa society. And for women, it is the initiation into the most intense seclusion they will ever experience." (p. 1297).[5] When women decided to migrate to the cities independently—i.e., without the consent of their husbands or family members—they were assumed to have become *karuwai,* which is a derogatory Hausa word for prostitute. This contrasted with the case of female migrants who belong to the Yoruba ethnic group in Southern Nigeria. Yoruba women, who were more educated than Hausa women, had more liberty and often migrated independently to the urban centers for the purpose of trade. Moreover, because they were educated, they could seek formal employment as clerks or secretaries in the urban centers. Highlighting the amount of leeway Yoruba women had, Pittin (1984, p. 1304) observed: "They say that a Yoruba woman on her own

[5] The TRANSMIT survey data, upon which this study relies, shows that about 50 percent of the respondents from Kaduna belong to the Hausa ethnic group.

is called a trader until her belly begins to swell, but a Hausa woman is assumed to be selling her body from the time she leaves home."[6]

Although Pittin's work was published four decades ago, the socioeconomic disparities between Hausa and Yoruba women (and by extension Northern and Southern Nigeria) which she highlighted persists in Nigeria today.[7] Some studies have shown that improvements in socioeconomic indicators like educational attainment could weaken patriarchal norms and facilitate the adoption of gender egalitarian attitudes (Kyoore and Sulemana 2019; Chatard and Selimbegovic 2007). The weakening of patriarchal norms allows women more agency in the migration decision-making process within the household (Mehapatro 2013). The TRANSMIT survey data, upon which this study relies, had the following question on attitudes towards gender equality: "When jobs are scarce, men should have more right to a job than women," with the responses measured on a scale with five ordinal categories ranging from "strongly agree" to "strongly disagree." 72 percent of the population in Kaduna chose either the "strongly agree" or "somewhat agree" response categories. Disaggregating the data based on gender showed that 77 and 69 percent of men and women respectively, held this view. In contrast, 35 percent of the population in Edo agreed with the statement supporting the preferential hiring of men over women when jobs were scarce, which is 37 percentage points lower than the estimate for Kaduna. Disaggregating the data based on gender

[6] The educational attainment gap between Nigeria's Northern and Southern Regions is rooted in its precolonial and colonial histories. Before the forceful capture of Northern Nigeria by British forces in 1903, it was an Islamic caliphate. Upon their surrender to British authority, the Muslim emirs had asked the British not to interfere with their religious way of life. Moreover, the Muslim rulers forbade Christian proselytization in Northern Nigeria (i.e., the Northern Protectorate). Conversely, the population in Southern Nigeria (i.e., the Southern protectorate), who mainly practiced their traditional religions, were more open to British influence and Christian missionary evangelization. Given the concentration of Christian missionary activity in Southern Nigeria, coupled with the fact that most of the schools in the country during the colonial period were built by the Christian missionaries, the population in Southern Nigeria was more exposed to Western education than that in Northern Nigeria. The educational gap between the two regions persists in Nigeria today. Suffice it to add that Northern and Southern Nigeria were distinct protectorates of the British until in 1914 when, for administrative convenience, the British merged them to form the entity that is today called Nigeria.

[7] In the TRANSMIT dataset, educational attainment was measured on a scale with 10 ordinal categories ranging from "0 = no formal schooling" to "9 = master's degree or higher." The mean educational attainment among the population in Edo was 4.6, while that for men and women were 4.9 and 4.4 respectively; this shows an educational attainment gap of 0.5 between the genders. The mean educational level of the population in Kaduna was 3.7, while that for men and women were 4.2 and 3.2 respectively; this shows an educational attainment gap of 1 between the genders. Although men are more educated than women in the respective states, women in Edo are more educated than both men and women in Kaduna.

showed that 47 and 26 percent of men and women respectively agreed with the statement. Although men have less favorable attitudes towards gender equality than women in the respective states, comparing the gender subsamples across both states reveals that men in Edo are more supportive of gender equality than both women and men in Kaduna. Moreover, women in Edo differ considerably from their fellow women in Kaduna, as evidenced by the stark contrast in their support for gender-based labor market discrimination. These heterogeneities indicate that it would be misleading to lump respondents based on gender across the two states. This lends credence to my decision to estimate separate regression models using data from the respective states.

Because society in Kaduna is very patriarchal, coupled with the salience of gender norms there, I expect being female to attenuate migrate aspirations in Kaduna. In Edo, however, where society is much less patriarchal, coupled with the fact that the state has a long history of female migration (Plambech 2022, 2017; De Haas 2006), females might not differ from males in terms of migration aspirations. I will test the following hypotheses:

H1: *Being female lowers migration aspirations in Kaduna*

H2: *Females do not differ from males in terms of migration aspirations in Edo*

3. Data and methodology

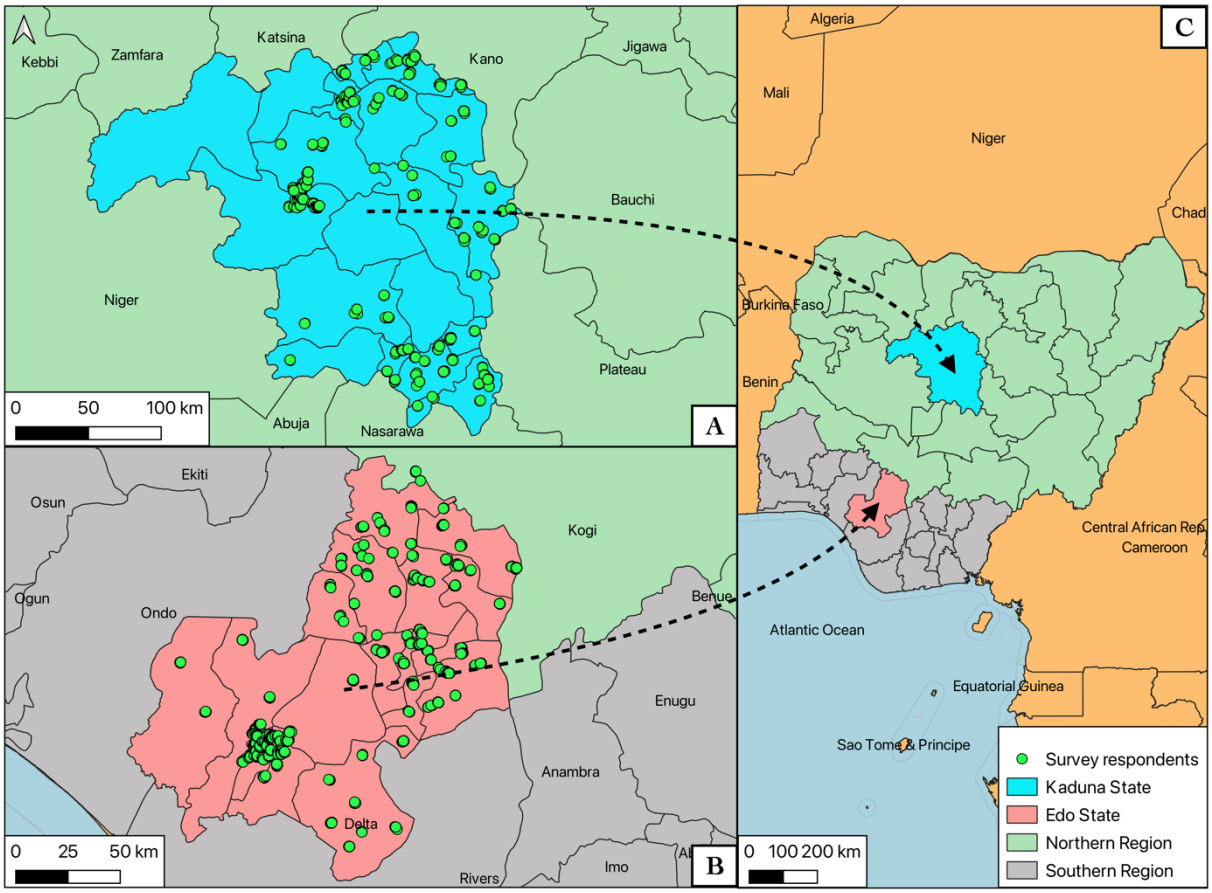

Figure 1: Case studies and Nigeria's major regions

Note: Panels A and B show the geolocations of the respondents in the states of Kaduna and Edo respectively, and the local government areas (LGAs) (i.e., municipalities) within the two states. Panel C shows the states of Kaduna and Edo within Nigeria's two major regions—i.e., the Northern and Southern Regions. The shapefiles containing Nigeria's administrative boundaries were developed by UNOCHA. To access them visit: https://data.humdata.org/dataset/nga-administrative-boundaries

This study relies on novel survey data collected as part of the Transnational Perspectives on Migration and Integration (TRANSMIT) research project in Nigeria in 2021.[8] Data were collected from the states of Edo and Kaduna, which are in Nigeria's Southern and Northern Regions respectively (See figure 1). The data is representative for the population in both states. 1,638 and 1,353 respondents were interviewed in Edo and Kaduna respectively. Section B in the appendix discusses the sampling strategy in detail. Table A1 in the appendix reports the summary statistics of the variables used to estimate the regression models.

[8] For more information on the TRANSMIT project visit: https://www.projekte.hu-berlin.de/en/transmit

Operationalization of the variables

Dependent variables

Migration aspirations. This measures the desire of respondents to move away from the state where they reside for a period of at least three months. This movement could be either domestically (i.e., within Nigeria) or internationally (i.e., to another country).

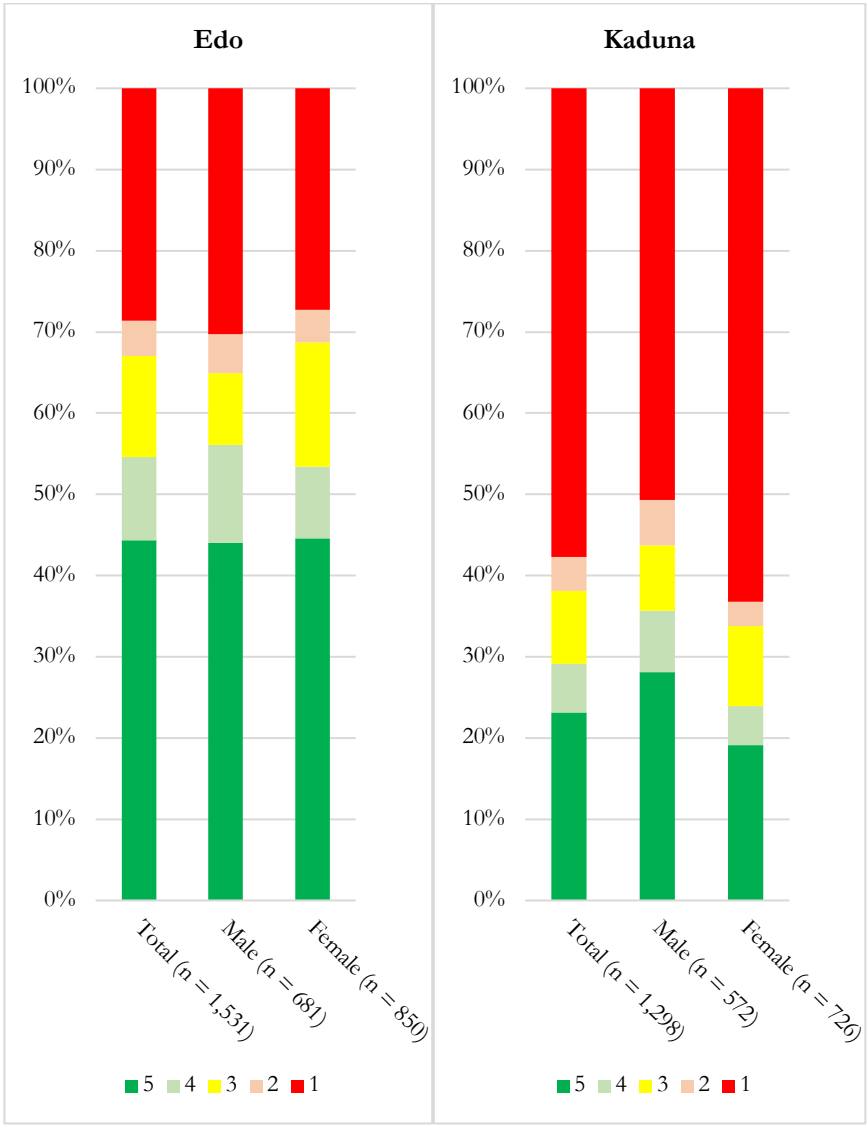

Figure 2: Migration aspirations in Edo and Kaduna

Note: The figure shows the migration aspirations of the populations and gender subsamples (males and females) in the states of Edo and Kaduna. Migration aspirations are measured on a scale with five ordinal categories where a value of 1 indicates that the respondent has no migration aspirations, and a value of 5 denotes the highest level of migration aspirations. The y-axis shows the percentage of respondents who chose a particular response category, while the x-axis shows the total number of respondents and the size of the gender subsamples.

This variable was derived from the question, "How much are you considering to move to another location to live outside of Kaduna/Edo ('live' meaning staying there for more than 3

months), on a scale from 1 to 5, where 1 stands for 'I don't want to move at all' and 5 means 'I really want to move'?" Figure 3 shows the distribution of the responses to this question in the respective states. The population in Edo has higher migration aspirations than that in Kaduna. While 58 percent of the respondents in Kaduna chose a migration aspiration score of 1, only 27 percent of the respondents in Edo chose a score of 1. Edo and Kaduna had mean migration aspirations scores of 3.4 and 2.3 respectively. When I disaggregated the migration aspirations variable based on gender and systematically compared the subgroups, a pattern emerged: while men have higher migration aspirations than women in the respective states, women in Edo have higher migration aspirations than both men and women in Kaduna. Moreover, the migration aspirations gap between the genders was much higher in Kaduna than Edo. In Edo, the mean migration aspirations score for men and women were 3.39 and 3.35 respectively, which gives a migration aspirations gender gap of 0.04. In Kaduna, the mean migration aspirations score for men and women were 2.57 and 2.14, which gives a migration aspirations gender gap of 0.43.

International Emigration plans. This measures the concrete plans that respondents have made to move to another country. It was derived from the question, "Have you made concrete plans to migrate to any other country, or to another location within Nigeria within the next 12 months? By migrating we mean staying there for more than 3 months," with the following responses, "0 = yes, to another country; 1 = yes, to another location within Nigeria; 2 = No." I used this item to develop a binary variable where I coded the "yes, to another country" response category as 1 and the remaining two response categories as 0. The implies that the reference category is the subsample of respondents who have made no plans to emigrate plus those who have made plans to emigrate only domestically.

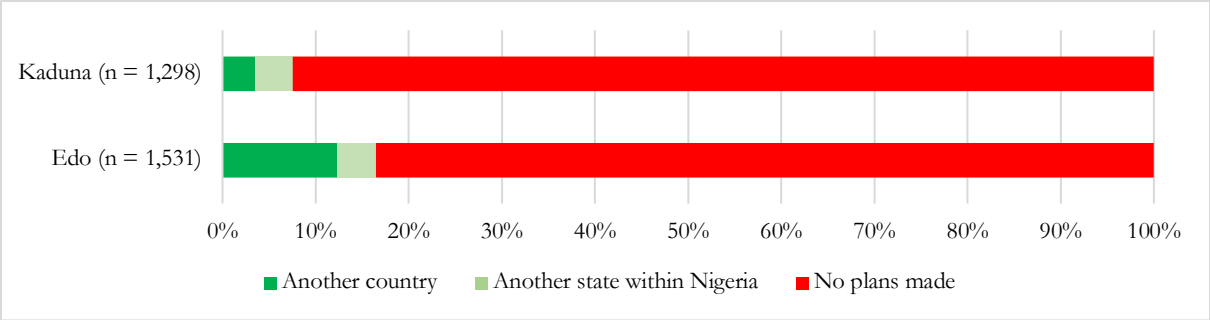

Figure 3: Emigration plans in Edo and Kaduna

Note: The figure shows the distribution of the respondents from the states of Edo and Kaduna based on the plans they have made to emigrate either domestically or internationally. The y-axis shows the total number of respondents from the respective states, while the x-axis shows the percentage of respondents who chose a particular response category.

Comparing figure 3 with figure 2 shows that most people who have migration aspirations have not made concrete plans to emigrate. Figure 3 shows that more people in Edo than Kaduna have made plans to emigrate both domestically and internationally. Moreover, while more people have made plans to emigrate internationally than domestically in Edo, the reverse is the case in Kaduna. Of the 252 respondents in Edo who have made plans to emigrate, 189 of them plan to move to another country. Of the 98 respondents in Kaduna who have made plans to emigrate, 46 of them intend to move to another country. Put differently, one in eight people in Edo have made plans to emigrate to another country; in Kaduna, the estimate is one in 28. Breaking down the data based on gender and comparing the subgroups revealed a pattern: more men than women have made plans to emigrate to another country in the respective states of Edo and Kaduna. However, comparing the subsamples across the states revealed that the number of women in Edo who had made plans to emigrate to another country was almost twice the total number of men and women in Kaduna who had made plans to move to another country: of the 189 respondents in Edo who had made plans to emigrate to another country, 107 and 82 of them were males and females respectively (i.e., 57:43). Of the 46 respondents in Kaduna who had made plans to emigrate to another country, 33 and 13 of them were males and females respectively (i.e., 72:28).

Explanatory variable

Gender. This is a dummy variable that takes the value of 1 if the respondent is female and 0 if male.

Control variables

Educational level. This measures the highest level of education attained by the respondents on a scale with 10 ordinal categories ranging from "0 = no formal schooling" to "9 = master's degree or higher." I included educational level in the regression model because some studies have shown that it positively correlates with migration aspirations (e.g., Vargas-Valle and Glick 2021; Schewel and Fransen 2018).

Land ownership. This is a dummy variable that takes the value of 1 if the household owns land and 0 otherwise. It proxies household wealth. Land might positively correlate with migration because it could be mortgaged to finance the migration journey (VanWey 2005). Conversely, land ownership could discourage migration, especially among agricultural households, because it provides a means of sustenance for household members (Williams 2008; Bhandari 2004).

Household size. This measures the total number of people living under the same roof, and who regularly share meals. Household size might positively correlate with migration because larger households tend to have more needs and might use migration as a risk diversification strategy against negative income shocks (Tsegai 2007). Conversely, household size may negatively correlate with migration because households' resources need to be divided among more people, making less resources available to finance the migration journey. This is especially so when the household constitutes children and elderly dependents.

Violent conflict. This measures the total number of violent conflict incidents that occurred within the local government area (LGA) (i.e., municipality) where the respondents reside from 1997 to 2020. Relying on data obtained from the Armed Conflict Location and Events Database (ACLED) (Raleigh et al. 2010), I define violent conflict as any incident that falls under any of the following three categories: Battles, Violence against civilians, and Explosions/Remote violence. I considered the total incidents within the LGA from 1997 to 2020 because I am particularly interested in the cumulative effect of violent conflict on migration aspirations. I chose the start year of 1997 because the ACLED dataset is available beginning from that year. Although the ACLED dataset is updated

in real time, I excluded incidents that occurred after 2020 because the dependent variable is measured in 2021. This lags the measure for violent conflict—mitigating the potential problem of reverse causation. Violent conflict has been shown to induce migration (Schaub and Auer 2023; Schon 2019; Lozano et al. 2010).

Demographic covariates. This includes the age and marital status of the respondents. Marital status takes the value of 1 if the respondent is married or has ever been married and 0 otherwise. I categorized divorcees and widows as married because divorce or the death of a spouse does not necessarily do away with familial responsibility, especially when the union produced offspring.

Analytical technique

The general form of the model to be estimated could be expressed thus:

$$\gamma_t = \beta_0 + \beta_1 Gender_t + \beta_2 \lambda'_t + \mu_t \quad (1)$$

Where γ_t is the dependent variable which measures migration aspirations/international emigration plans, β_0 is the intercept, β_1 and β_2 are the coefficients of the explanatory and control variables respectively, λ'_t is a vector of control variables that have been discussed earlier, μ_t is the error term, and *t* denotes the year in which the variables are measured. In the models where I examined the effect of gender on migration aspirations, I used ordinary least squares (OLS) regression as the estimation method. Because international emigration plans are measured binarily, I estimated the regressions examining the effect of gender on international emigration plans using linear probability model (LPM). I included fixed effects for the local government area (LGA) (i.e., municipality) where respondents reside in all the models to capture the time-invariant factors (e.g., physical geography or the way society is organized) that are unique to the respective LGAs and which could influence migration aspirations/emigration plans. I clustered the standard errors at the LGA level to allow for the possibility of correlation between observations within the same LGA.

4. Results and discussions

Migration aspirations

Table 1: OLS regressions examining the effect of gender on migration aspirations

Migration aspirations$^{\phi}$	**Edo**			**Kaduna**		
	(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**
Gender	0.048	-0.063	0.045	-0.412**	-0.233	-0.054
	(0.098)	(0.115)	(0.211)	(0.149)	(0.156)	(0.184)
Gender x Marital status			0.122			-0.485*
			(0.137)			(0.251)
Gender x Land ownership			-0.272			0.369
			(0.177)			(0.224)
Marital status		-0.284**	-0.363**		-0.824***	-0.582**
		(0.126)	(0.169)		(0.13)	(0.214)
$(Age)^2$		-0.00***	-0.00***		-0.00***	-0.00***
		(0.00)	(0.00)		(0.00)	(0.00)
Educational level		0.066*	0.066*		0.108***	0.099**
		(0.037)	(0.036)		(0.032)	(0.035)
Household size		0.061	0.066		-0.028	-0.023
		(0.041)	(0.041)		(0.035)	(0.036)
Land ownership		0.128	0.292*		0.043	-0.168
		(0.099)	(0.164)		(0.103)	(0.186)
Violent conflict		0.003***	0.003***		-0.004	-0.004
		(0.001)	(0.001)		(0.003)	(0.003)
Constant		3.629***	3.559***		3.914***	3.924***
		(0.274)	(0.291)		(0.265)	(0.26)
LGA fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1531	1528	1528	1298	1297	1297
R-squared	0.026	0.169	0.171	0.107	0.23	0.236
AIC statistic	5949.274	5708.375	5709.529	4911.481	4728.564	4721.811

Note: *ϕ is the dependent variable, clustered robust standard errors are in parenthesis, *** p<0.01, ** p<0.05, * p<0.10. All models are estimated ordinary least squares (OLS) regression and contain fixed effects for the local government area (LGA) (i.e., municipality) where the respondents reside.*

Table 1 reports the results of regression models examining the effect of gender on migration aspirations. Models 1 to 3 are based on data from the state of Edo. In model 1—i.e., the baseline model where no control variables were included—gender was statistically insignificant. In model 2, where I added the control variables, gender remained insignificant. This indicates that females do not differ from males in terms of migration aspirations. Put differently, women in Edo are just as likely as men to have high migration aspirations. This result is consistent with Hypothesis 2.

Among the control variables, marital status, the square of age, educational level, and violent conflict were statistically significant. Marital status carried a negative sign and was significant at the five percent level, which suggests that being married attenuates migration aspirations. This might be because of familial responsibilities that come along with being married. For instance, there might

be less resources available to finance migration because of the needs of children who are dependent. Moreover, it might be easier for people who are unmarried to migrate than those who are married because the unmarried are more likely to base their migration decision on what is best for them. Conversely, married people need to consider not only their own interests, but also that of their spouse and children, which makes the migration decision more complex (Gubhaju and De Jong 2009). The square of age carried a negative sign and was significant at the one percent level, which suggests a curvilinear relationship between age and migration aspirations. Put differently, the relationship between age and migration aspirations is akin to an inverted "U". From the age of 15, migration aspirations are rising as age increases. This trend persists until a point is reached at which migration aspirations peak. An increase in age beyond this peak rather leads to a decrease in migration aspirations. The decline after the peak might be because of marriage and the familial responsibilities that come along with it, which tempers migration aspirations. This mechanism is supported by the negative sign accompanying marital status.[9]

Educational level was significant at the 10 percent level and carried a positive sign, which indicates that education increases migration aspirations. A reason for this could be that people who are educated possess transferable skills that could unlock opportunities for them beyond the locale where they reside, which makes them more likely to migrate. This is consistent with the findings of Vargas-Valle and Glick (2021), Schewel and Fransen (2018), and Feliciano (2005). Violent conflict was significant at the one percent level and carried a positive sign, which indicates that the threat posed by violent conflict prompts people to flee the conflict zone. This is consistent with the findings of Schaub and Auer (2023) and Czaika and Kis-Katos (2009). To better understand the mechanisms through which gender influences migration aspirations, I added two interaction terms to the model. The first multiplies gender and marital status, while the second multiplies gender and land ownership. As shown in model 3, the two interaction terms were statistically

[9] I did not include age and its square in the same regression model to avoid multicollinearity. The correlation between both variables was 0.97.

insignificant; however, with their inclusion, land ownership became significant at the 10 percent level. It carried a positive sign, which indicates that household wealth increases migration aspirations. This might be because land is an asset that could be sold or mortgaged to finance the migration journey.

Models 4 to 6 are based on data from Kaduna. In model 4—i.e., the baseline model—gender carried a negative sign and was significant at the five percent level. This indicates that being female lowers migration aspirations. Put differently, men in Kaduna have higher migration aspirations than women. This supports Hypothesis 1 and contrasts with the case of Edo where women did not differ from men in terms of migration aspirations. However, in model 5 where I added the control variables, gender became statistically insignificant with a p-value of 0.15. Among the control variables, marital status, the square of age, and educational level, were statistically significant. Marital status carried a negative sign and was significant at the one percent level, which suggests that, like in the case of Edo, being married lowered migration aspirations in Kaduna. However, the effect size in Kaduna was over twice that in Edo. The square of age was significant at the one percent level and carried a negative sign, which supports my earlier argument about a curvilinear relationship between age and migration aspirations. Educational level was significant at the one percent level and carried a positive sign, which indicates that education increases migration aspirations. Although this was also congruent with the findings from Edo, the effect size was larger in Kaduna. Unlike the case of Edo where violent conflict positively correlated with migration aspirations, violent conflict was insignificant in Kaduna.

In model 6 where I added the two interaction terms, only one of them—i.e., the interaction between gender and marital status—was significant. It carried a negative sign, which indicates that the effect of gender on migration aspirations is moderated by marital status. Simply put, married women are likely to have low migration aspirations.[10] This is likely due to the salience of gender

[10] Because both gender and marital status are dummy variables, the reference category for the interaction term consists of unmarried women, unmarried men, and married men.

norms in Kaduna where women are expected to stay home and look after the children. This is consistent with the findings of Todes (1998), Brandén (2014), and Pittin (1984). This contrasts with the case of Edo where the interaction terms were insignificant. This corroborates my decision to estimate different regression models for Edo and Kaduna—because the populations in both states differ considerably.

International emigration plans

Table 2: LPM regressions examining the effect of gender on international emigration plans

Int'l emigration plans$^{\phi}$						
	Edo			**Kaduna**		
	(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**
Gender	-0.061**	-0.069**	-0.063	-0.038***	-0.026**	-0.073**
	(0.022)	(0.028)	(0.042)	(0.01)	(0.009)	(0.03)
Gender x Marital status			0.092**			0.063
			(0.033)			(0.041)
Gender x Land ownership			-0.091***			0.006
			(0.031)			(0.021)
Marital status		-0.012	-0.067**		-0.036*	-0.065*
		(0.024)	(0.025)		(0.017)	(0.033)
$(Age)^2$		-0.00***	-0.00***		-0.00	-0.00
		(0.00)	(0.00)		(0.00)	(0.00)
Educational level		0.008*	0.009*		0.007*	0.008*
		(0.005)	(0.005)		(0.004)	(0.004)
Household size		0.013	0.016		-0.004	-.004
		(0.01)	(0.011)		(0.003)	(0.003)
Land ownership		0.054***	0.111***		0.01	0.008
		(0.019)	(0.026)		(0.01)	(0.019)
Violent conflict		-0.001*	-0.001*		-0.001**	-0.001**
		(0.00)	(0.00)		(0.00)	(0.00)
Constant	0.17***	0.143***	0.129***	0.059***	0.146***	0.162***
	(0.012)	(0.035)	(0.037)	(0.006)	(0.038)	(0.041)
LGA fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1531	1528	1528	1298	1297	1297
R-squared	0.031	0.064	.071	0.039	0.063	0.068
AIC statistic	894.151	854.765	845.834	-748.047	-767.217	-770.334

Note: *ϕ is the dependent variable, clustered robust standard errors are in parenthesis, *** p<0.01, ** p<0.05, * p<0.10. All regressions are estimated using linear probability model (LPM) and contain fixed effects for the local government area (LGA) (i.e., municipality) where the respondents reside.*

Having examined the effect of gender on migration aspirations, I proceed to examine the effect of gender on the concrete plans that respondents have made to emigrate to another country. Table 2 reports the regression results. Models 1 to 3 are based on data from Edo. In model 1—i.e., the baseline model—gender carried a negative sign and was significant at the five percent level, which suggests that being female reduces the probability of making concrete plans to emigrate to another country. Put differently, men are more likely to make international emigration plans than women.

This finding was robust to the inclusion of control variables, as shown in model 2. This result is quite striking because females in Edo do not differ from their male counterparts in terms of migration aspirations. This parity between men and women in terms of migration aspirations is likely because aspirations are merely desires. However, when it comes to making concrete plans to emigrate, which requires the household's resources, there is an income constraint which activates gender norms that penalize women for their *homemaking* role and reward men for their *provider* role.

Among the control variables, the square of age, educational level, land ownership, and violent conflict were statistically significant. The square of age carried a negative sign, which suggests the existence of a curvilinear relationship between age and international emigration plans. A plausible explanation for this finding could be that people who make plans to emigrate to another country and are unable to achieve this goal persist. They exert more effort as time goes by and explore other viable migration avenues. This goes on until a point is reached where their efforts peak. Beyond this peak, effort declines with time. The decline persists with age until an age is reached when they stop trying. This might be because potential migrants eventually give up and decide to remain where they are. Educational level was significant at the 10 percent level and carried a positive sign, which indicates that being educated increases the probability of making international emigration plans. Besides the fact that education unlocks opportunities beyond the locale where one resides, education also positively correlates with income; the more educated people are, the more resources they would have to channel towards their emigration plans.

Land ownership carried a positive sign and was significant at the one percent level, which suggests that household wealth increased the probability of making international emigration plans. This is likely because wealthy households have more resources to channel towards the emigration plans of their members. Moreover, land is an asset that could be sold or mortgaged to finance the migration journey. Violent conflict was significant at the 10 percent level and carried a negative sign, which suggests that exposure to violent conflict reduces the probability of making concrete plans to emigrate to another country. This contrasts with the results reported in table 2 where

violent conflict positively correlated with migration aspirations. A plausible reason for this finding could be that violent conflict depletes households' resources, which makes less resources available to channel towards international emigration plans. Moreover, since international migration could be an expensive endeavor, the immediate goal of people who are exposed to conflict might be to flee the conflict zone. Relocation to a safer state within Nigeria would be easier to achieve than emigrating to another country.

In model 3 where I added the two interaction terms, the direct effect of gender on international emigration plans vanished. Marital status, which had been previously insignificant, became significant at the five percent level and carried a negative sign, which indicates that being married lowers the probability of making international emigration plans. The interaction between gender and marital status carried a positive sign and was significant at the five percent level. This suggests that the effect of gender on international emigration plans is moderated by marital status. Put differently, being female and married increases the probability of making international emigration plans. While this finding might at first seem anomalous, it becomes very plausible when one considers the fact that out of Nigeria's 36 states, Edo has one of the highest migration rates. In fact, most migrants from Nigeria who aspire to reach Europe originate from there (Berber and Scacco 2022; Vermuelen 2019; Houttuin and Haaij 2018; Elbagir et al. 2018). It is thus possible that the international emigration plans of married women are associational—i.e., they might be planning to emigrate along with their husbands, or emigrating to reunite with their husbands who are already in the migration destination country. Ikuomola (2015) has conducted a study in Edo where he focused on *left-behind wives* whose husbands had migrated and highlighted the challenges that come along with that status. Stock (2012) has also observed that "some women might migrate with their partners in order to avoid a decrease in status as 'single' mothers, or 'left behind' wives, even if this might increase the difficulty of the migratory project." (pp. 1583-1584). It is also possible that *left-behind wives* receive remittances from their husbands, which enables them to make emigration plans.

The interaction between gender and land ownership carried a negative sign and was significant at the one percent level. This suggests that the effect of gender on international emigration plans is also moderated by household wealth. In other words, being female in a wealthy household reduces the probability of making international emigration plans.[11] A plausible explanation for this finding could be that women are penalized for their *homemaking* role in the allocation of resources, while men, who are expected to be *providers*, have a stronger bargaining power within the household and thus get more resources to finance their international emigration plans. This finding is striking because women in Edo do not differ from men in terms of migration aspirations. This shows that the penalizing effect of gender norms on women is muted at the aspirations stage of the migration process, probably because aspirations are merely desires. However, when resources are involved, these norms become activated. Another plausible explanation for this finding could be that wealthy households are reluctant to send women abroad because they consider female migration riskier than that of men. Female migration in Edo is closely associated with sex trafficking and exploitation (Adeyinka et al. 2023; Plambech 2022, 2017; Damon et al. 2018; Spaggiari 2016; Hyland 2016). Since wealthy households are not in a precarious socioeconomic condition, they might weigh the risks associated with female migration alongside the potential remittances from female migration and decide that the risks outweigh the benefits.

Models 4 to 6 are based on data from Kaduna. In model 4—i.e., the baseline model—gender carried a negative sign and was significant at the one percent level. In model 5 where I added the control variables, gender retained its negative sign, but its significance level dropped to five percent. This suggests that being female lowers the probability of making international emigration plans in Kaduna. Among the control variables, marital status, educational level and violent conflict were statistically significant. Since educational level carried a positive sign while marital status and violent conflict carried negative signs, which are consistent with the findings in

[11] Because both gender and land ownership are dummy variables, the reference category for the interaction term consists of women residing in household that do not own land, men residing in households that do not own land, and men residing households that own land.

Edo, the same explanations apply. Unlike the case of Edo where land ownership positively correlated with international emigration plans, land ownership was statistically insignificant in Kaduna.

In model 6 where I added the two interaction terms, the direct effect of gender on international emigration plans persisted. In fact, the size of its coefficient more than doubled. None of the interaction terms were significant, which suggests an independent association between gender and international emigration plans. This might be because society in Kaduna generally considers women to be less than men, irrespective of household wealth or marital status. This contrasts with the case of Edo where the penalizing effect of gender norms on women operated through the mechanism of household wealth. An important point worth highlighting in the case of Kaduna is that the penalizing effect of gender norms on women kicks in right from the aspirations stage of the migration process. This is congruent with the descriptive results I had provided in Section 2, which showed that society in Kaduna is more patriarchal than Edo.

5. Conclusion

Using the case studies of the states of Edo and Kaduna, which are in Nigeria's Southern and Northern Regions respectively, this study examined the effect of gender on migration aspirations and international emigration plans. This study also sought to identify the countries to which respondents would like to emigrate if they could move freely without any restrictions, and the countries to which they had already made concrete plans to emigrate. The regression results showed that in Kaduna, the effect of gender on migration aspirations was moderated by marital status. Put differently, being female and married lowered migration aspirations. This was likely due to the patriarchal nature of society and the salience of gender norms where women were expected to be *homemakers* and men *providers*. When I shifted the focus of the analysis to the concrete plans that had been made to emigrate to another country, I found that being female lowered the probability of making international emigration plans. Unlike the former case where the effect of gender was

moderated by marital status, the effect of gender on international emigration plans was direct. This might be because society in Kaduna generally considers women to be less than men.

In Edo, females did not differ from males in terms of migration aspirations. The regression results also showed that the effect of gender on international emigration plans was moderated by both marital status and land ownership: being female and married increased the probability of making international emigration plans. This was likely because the emigration plans of married women were associational—i.e., tied to their husbands' emigration plans, or driven by the desire to reunite with their husbands who had already emigrated. Conversely, the interaction between gender and land ownership negatively correlated with international emigration plans, which indicated that being female in a wealthy household lowered the probability of making international emigration plans. This was likely because, in the allocation of resources within the household, gender norms penalized women for their *homemaking* role. It was also possible that households considered female migration to be riskier than that of men, especially because of women's vulnerability to sex trafficking. Since wealthy households were not in a precarious socioeconomic condition, they weighed the risks associated with female migration alongside the potential remittances from female migration, and decided that the risks outweighed the benefits. A point worth highlighting is that the penalizing effect of gender norms on women kicked in right from the aspirations stage of the migration process in Kaduna; in Edo, it kicked in later—i.e., at the point of resource allocation within the household.

This study highlights the importance of taking the heterogeneities within a country into account while analyzing migration. A limitation of this study is the cross-sectional nature of the dataset, which prevented me from examining changes in migration aspirations over time. Future studies can investigate the relevant relationships using panel data.

Conflict of Interest

None.

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Appendix

Section A

Table A1: Descriptive Statistics

Variable	Obs.	Mean	Std. Dev.	Min	Max
Migration aspirations	1531	3.374	1.711	1	5
Migration aspirations†	1298	2.327	1.698	1	5
International emigration plans	1531	0.123	0.329	0	1
International emigration plans†	1298	0.035	0.185	0	1
Gender	1570	0.553	0.497	0	1
Gender†	1321	0.557	0.497	0	1
Marital status	1531	0.639	0.481	0	1
Marital status†	1298	0.74	0.439	0	1
Age	1569	36.047	15.797	15	97
Age†	1321	34.391	14.004	15	85
$(Age)^2$	1569	1548.779	1387.694	225	9409
$(Age)^{2}$†	1321	1378.724	1148.781	225	7225
Educational level	1529	4.589	1.703	0	9
Educational level†	1297	3.665	2.181	0	9
Household size	1570	1.752	1.086	0	10
Household size†	1321	2.202	1.49	1	11
Land ownership	1531	0.667	0.471	0	1
Land ownership†	1298	0.423	0.494	0	1
Violent conflict	1638	16.063	24.487	0	96
Violent conflict†	1353	35.714	36.796	0	116

Note: *All values are for the state of Edo, except for those with the sign † which are for the state of Kaduna.*

Section B

Sampling strategy

As part of the Transnational Perspectives on Migration and Integration (TRANSMIT) research project, the WZB Berlin Social Science Center, Berlin, Germany, conducted a survey in the states of Edo and Kaduna in 2021, which are in Nigeria's Southern and Northern regions respectively. 1,353 and 1,638 respondents were interviewed in Kaduna and Edo respectively. Respondents were at least 15 years old. To select the interview locations, multi-stage clustered random sampling was employed. Although the sampling strategy employed in both states was similar, it was not identical. This is because all the local government areas (LGAs) in Edo were accessible to enumerators to conduct interviews in, but four LGAs in Kaduna (i.e., Giwa, Birnin Gwari, Kauru, and Zangon

Kataf) were unsafe areas for interviews due to the high risk of intercommunal conflict. These four LGAs were excluded from the sampling frame.

Grid cells of 5 x 5km, which were called precincts, were developed using QGIS software. These precincts were laid on a shapefile showing the administrative boundaries of both states. Each precinct was comprised of smaller 0.5 x 0.5km grid cells. Precincts were randomly drawn with replacement, with probabilities corresponding to the population sizes within each of them. From each of the selected precincts, smaller 0.5 x 0.5km grid cells were randomly selected with probabilities corresponding to the size of the population within them. The smaller grid cells were drawn without replacement. Within each of the smaller grid cells, an average of 12 households were interviewed. The households were selected using a random walk approach, and the interviewee within the household was chosen using a simple random draw. Respondents were at least 15 years old. Before minors were interviewed, consent was sought from the household head. The minor was interviewed only if he or she also granted consent. Respondents were informed that participation in the survey was voluntary, and they could opt out of the interview at any time.

The slight difference between the sampling strategy employed in Kaduna compared to the one used in Edo is that the sample in Kaduna was stratified according to the population size in the senatorial district (Each state in Nigeria comprises of 3 senatorial districts; each senatorial district comprises of LGAs). This was done to ensure that the exclusion of the four LGAs did not skew the sample. Samples were drawn within each of the senatorial districts in relation to their respective population shares. It is difficult to obtain recent population estimates for Nigeria from official government sources because the last population census was conducted in 2006. Due to this constraint, the population for both states were obtained from the 2020 Worldpop gridded dataset (Bondarenko et al. 2020).