



**UNITED NATIONS  
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**UNU-MERIT**

**Working Paper Series**

**#2015-008**

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Are remittances a curse or a blessing?**

**Maty Konte**

**Maastricht Economic and social Research institute on Innovation and Technology (UNU-MERIT)**

email: [info@merit.unu.edu](mailto:info@merit.unu.edu) | website: <http://www.merit.unu.edu>

**Maastricht Graduate School of Governance (MGSoG)**

email: [info-governance@maastrichtuniversity.nl](mailto:info-governance@maastrichtuniversity.nl) | website: <http://mgsog.merit.unu.edu>

Keizer Karelplein 19, 6211 TC Maastricht, The Netherlands

Tel: (31) (43) 388 4400, Fax: (31) (43) 388 4499

# The Effects of Remittances on Support for Democracy in Africa: Are Remittances a Curse or a Blessing?

Maty Konte \*  
United-Nations (UNU-MERIT)

March 2015

## Abstract

We examine the effect of remittances on the legitimacy of democracy in Africa, testing whether remittance recipients are less likely to support democracy than are non-recipients. We hypothesise that the effect of remittances on support for democracy varies across groups of individuals sharing similar but unobserved background characteristics. Using the Afro-barometer surveys, we try to find out whether the respondents fall into different hidden clusters in such a way that the effect of remittances on the degree of support for democracy depends on the cluster. Our results support that remittances may be a curse for the degree of endorsement and support for democracy depending on the cluster of individuals that we consider. The analysis of the probability of being in the remittance curse cluster indicates that the perception of national priorities plays an important role. Indeed, people who attest that freedom and rights are the main national priorities have a lower probability of belonging to the remittances curse cluster than individuals who choose national priorities that are oriented towards the economic conditions of their country.

**Key words:** Migrant Remittances; Support for democracy; Multilevel Mixture-regressions

**JEL Classification:** D01; F24; O55

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\*konte@merit.unu.edu

# 1 Introduction

Remittance inflows have been rapidly increasing in many developing countries, including in Sub-Saharan Africa, and influential studies have been carried out to shed light on the effects of these inflows on economic and social outcomes such as inequality and poverty alleviation (Adams and Page (2005), Acosta et al. (2008)), education (Edwards and Ureta (2003)), and growth (Catrinescu et al. (2009)), among others. Recent work has attempted to go beyond the effects of remittances on development, and has tried to figure out the effects of these flows on institutional dimensions, such as corruption (Abdih et al. (2012)), government effectiveness and the rule of law (Berdiev et al. (2013)), and protest (Acevedo (2013)). In a similar spirit, another strand of the literature has also looked at the institutional effect of remittances at a more disaggregated level, the community and individual level, and the results have shown that remittance recipients may have different behaviors and preferences in politics than their counterparts. This particularly includes investigations in Latin America and specifically in Mexico that have looked at how remittances influence the political participation and involvement of those left behind (Goodman and Hiskey (2008), Germano (2013)).<sup>1</sup>

Surprisingly, Sub-Saharan Africa has received a considerable amount of remittances, yet little is known about their attitudinal and behavioral consequences for the politics in this region (Dionne et al. (2014)), while studies of the effect of such flows on the legitimacy of democracy are quite nonexistent. This paper will bring remittances into this part of the literature, and look at the effect of remittances on the degree of support for democracy on the part of the individuals left behind at home in this region. It tries to find out whether the respondents fall into different hidden clusters in such a way that the effect of remittances on the degree of support for democracy depends on the cluster. It also looks at to what extent individuals' perceptions of the main national priorities may explain the link between remittances and support for democracy.

Good institutions, such as democracy has been posited as a universal value (Sen (1999)), and then associated with many desirable features, including development (Persson and Tabellini (2006)) and social welfare (Siegle et al. (2004)). The question of how to promote democracy has gained considerable attention and has been continually addressed in the context of less advanced nations such as those in Sub-Saharan Africa. Political scholars have argued that the legitimacy of institutions, or the degree to which institutions are valued for themselves, and

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<sup>1</sup>It has also been addressed the link between remittances and the process of democratization during the municipality elections in Latin America (e.g, Pfütze (2014), Pfütze (2012)).

considered right and proper (Lipset (1963)), is important for the sustainability and the effectiveness of institutions. Hence, it has been asserted that the degree to which people support democracy in a country is a pre-requisite for the level and the stability of democracy in that country (Lipset (1959), Diamond (1999)). A new literature has thus emerged, looking at the major determinants of support for democracy in Sub-Saharan African countries using the available Afrobarometer data. Different aspects of individual socio-economic characteristics have been investigated. Among them, the relationship between the level of education and support for democracy (Evans and Rose (2007b), Evans and Rose (2007a)), following the theory of Lipset (1959) which claims that education is a prerequisite for the endorsement and support for democracy. Also MacCauley and Gyimah-Boadi (2009) have looked at the relationship between religion and support for democracy while García-Peñalosa and Konte (2014) have been interested in the gender dimension, focusing on the potential explanations of the gender gap in support for democracy in Sub-Saharan Africa.<sup>2</sup>

Yet, this previous literature on the determinants of support for democracy in Sub-Saharan Africa has not much considered the relationship between remittances and political engagement despite the growing amount of remittances in many Sub-Saharan African countries and the recent studies in Mexico that have found a negative association between remittances and political behavior. As far as we know, an exception is the recent study by Dionne et al. (2014), who have analyzed the effect of remittances on political participation in a cross-country analysis of a number of African countries, testing whether remittances are a curse or a blessing for political participation. Their results are mixed and show that while remittance recipients are less likely to vote, they are more likely to contact the government and to take part in demonstrations and protests. This finding has shown that the political effect of remittances in the African context is different from that in the Mexican context, where many scholars have supported the thesis of the curse of remittances in political participation (Goodman and Hiskey (2008), Germano (2013)).

The aim of this paper is twofold. First, it goes one step further and tests whether remittances are a curse or a blessing for the support of democracy in Sub-Saharan Africa. We argue that remittance recipients may not behave similarly in politics and that the effect of remittances on support for democracy varies across groups of individuals sharing similar but unobserved characteristics. In other words, we consider the possibility of the existence of hidden clusters of individuals in our sample such that the effect of remittances on support for democracy depends on the cluster to which a given individual belongs. The clusters are a priori unknown, and will be

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<sup>2</sup>See also Konte (2014b) for another study that has tried to explain why women are less democratic than men in Sub-Saharan Africa.

defined endogenously using all the available information in our data. For this purpose, we apply the newly developed method of multilevel mixture regression analysis (Asparouhov and Muthen (2009), Henry and Muthen (2010)) that incorporates a latent variable to classify individuals into different clusters. This technique is an extension of the standard model of finite mixture of regressions (McLachlan and Peel (2000)). In addition, it is suitable for hierarchical data, and accounts for the nested structure of the data. This approach provides a better fit for a multilevel data structure and it enables taking into account any possible unobserved heterogeneity that may exist in the lowest and highest levels of the data. We relax the hypothesis that all the individuals behave similarly, and test the hypothesis that whether remittances are a curse or a blessing depends on the cluster to which an individual belongs.

Second, after finding the different clusters of individuals that share similar but unobserved background characteristics and determining the effects of remittances within these clusters, the paper provides an analysis of the determinants of the probability for a given individual to be not located in the remittance curse cluster. As potential determinants, we propose the perception of the most important national priority at the individual level in the sample. This choice is made following the recent arguments by Abdih et al. (2012) and Berdiev et al. (2013) who have emphasized that remittances enable households to provide public goods and services (e.g., health services and education) on their own if these items are publicly non-existent or poorly provided. Thus, we believe that the nature of the national priority chosen by an individual may play an important role because the incentive for supporting a democratic regime may, firstly, depends on whether the national priority perceived is a good that can exclusively be offered publicly, and secondly, on whether a democratic regime is more willing to provide such a good. We then investigate whether people who assert that freedom and rights are the most important national priorities are less likely than are people who choose economic and social aspects as the most important national priorities to be in the cluster where remittances are a curse for the support for democracy.

For our analysis we use round 4 of the Afrobarometer, which is, as far as we know, in our knowledge the only survey round of the Afrobarometer that provides information on whether respondents receive remittances or not. Our multilevel mixture regression estimations show that the respondents in our sample are best grouped into two different clusters. In the first cluster, remittances have a negative impact on the probability of supporting democracy, while in the second cluster the effect is neutral. The analysis of the determinants of the probability of being in the remittance curse cluster indicates that having rights and freedom as the first, most

important, national priority increases the probability of being classified into the second cluster where remittance recipients are as likely to support democracy as are non-remittance recipients.

This paper contributes to three strands of the literature. First, it is related to the literature that has investigated the impact of remittances on different economic and social outcomes. A number of studies have shown, using different samples of countries, that remittances present desirable development features, including poverty and inequality alleviation (Adams and Page (2005), Acosta et al. (2008)), consumption smoothness (Gupta et al. (2009)) and education (Edwards and Ureta (2003)) among others. It has also been argued that remittances are important sources of investment for small businesses and talented entrepreneurs that lack capital in order to fully realize their potential (Amuedo-Dorantes and Pozo (2006b)). In parallel, another part of the literature has documented the negative aspects that remittances may generate. These include the altruistic effect (Stark (1995)) indicating that remittances are mainly used for consumption but not for productive activities, and the moral hazard effect (Amuedo-Dorantes and Pozo (2006a)) suggesting that remittances may increase the incentive of recipients to switch from labor to leisure. Remittances may also produce the Dutch disease, hurting the export activities of the economy (Bourdet and Falck (2006)). Regarding the effect of remittances on the growth rate of a country, results are mixed and the question of whether remittances are a curse or a blessing remains inconclusive (Catrinescu et al. (2009), Abdih et al. (2012)).

This paper is also related to the literature that has gone beyond the development sphere, looking at whether remittances may be detrimental for the quality of institutions. For instance, Berdiev et al. (2013) have investigated, in a cross-sectional analysis, the effect of remittances on corruption, while in a similar manner, Abdih et al. (2012) have also looked at its effect on government effectiveness and the rule of law in addition to corruption. Both of these studies have provided evidence that remittances deteriorate the quality of institutions. The argument behind this is that an increase in the level of remittances increases the likelihood that the government will spend more time in rent seeking behavior and will not invest as much in delivering public goods, because recipients may procure such goods on their own using remittances.

In addition, there is an influential part of the literature that has focused on the attitudinal and behavioral effects of remittances in politics. Some studies have investigated this issue in Latin America, mainly of Mexico. The findings show that remittances are detrimental for people's participation and involvement in the political life in Mexico (Goodman and Hiskey (2008), Germano (2013)). While Goodman and Hiskey (2008) support that there is a decrease in political engagement in municipalities with high level of out-migrants, Germano (2013) carry

out a deeper empirical analysis and find that remittance recipients are less likely to pressure and oppose politicians, because they are more optimistic about their economic conditions. In the African context, little is known about the effects of remittances on individual behavior in politics. As far as we know, an exception is the analysis by Dionne et al. (2014), who have investigated whether remittances are another resource curse in Sub-Saharan Africa, as they are in the Mexican context. Their results provide evidence for a mixed effect of remittances on political participation in Africa. Indeed, people who received remittances are less likely to vote but are more likely to contact the government and to take part in demonstrations and protests.

Finally, this paper is closely related to the literature on the determinants of the support for democracy in Sub-Saharan African countries. There have been different influential studies that have tested potential individual characteristics that may affect people's endorsement of and preference for democracy over its alternatives. Among them, one can note the work on education and support for democracy (e.g, Mattes and Bratton (2001), Bratton and Mattes (2005), Evans and Rose (2007b)). These authors have posited a positive effect of education on the degree of support for democracy, following the theory of Lipset that argues that education is a pre-requisite for democracy. The relationship between religion and support for democracy has also been studied by some scholars, including MacCauley and Gyimah-Boadi (2009) who have provided evidence of a non link between Islam and support for democracy in Sub-Saharan Africa. In many of the analyses in this literature, it has been shown that women are less than men likely to support democracy. Yet, few studies have been carried out to explain this gender gap. Among them, one can note the recent works by García-Peñalosa and Konte (2014) and Konte (2014b) who have attempted to provide economic, political, and social explanations of this gender gap. However, so far as our knowledge extends, this literature has not much focused on remittances, another source of revenue, non-taxable and that goes directly to households who may in turn use it to buy public goods that are weakly provided.

The remainder of this paper is structured as follows. The next section describes the data, while Section 3 sets up the empirical model. In Section 4 we discuss our empirical results, while the last section concludes.

## **2 Data: The Afrobarometer**

For our empirical analysis we will use the round 4 of the Afrobarometer, which, so far as our knowledge extends, is the only survey of the Afrobarometer that provides information about whether the respondents receive remittances or not. Round 4 includes 27,000 individuals inter-

viewed in 20 Sub-Saharan African countries. Our dependent variable is support for democracy, and to measure it we follow the previous extensive literature that has been interested in the determinants of support for democracy using the Afrobarometer data. We refer to question Q30 of the questionnaire, which asks “*Which of these three statements is closest to your opinion?*” The possible answers are: (1) Democracy is preferable to any other kind of government; (2) In some circumstances, a non-democratic government can be preferable; (3) For someone like me, it does not matter what kind of government we have and (4) I don’t know. Indeed, it is not obvious how to rank these different responses in terms of preference for democracy. In other word, we cannot ensure whether reply (2) indicates a higher or a lower degree of support for democracy than (3). Hence, we follow the standard way that has been previously applied in influential studies (e.g, Evans and Rose (2007b), García-Peñalosa and Konte (2014)). We define a dummy  $SD$  that takes the value of 1 if the respondent supports democracy, meaning giving the first reply, zero if the respondent gives one of the last three replies.

To investigate the impact of remittances on the degree of support for democracy, we refer to the question Q87 of the survey that asks *How often, if at all, do you receive money remittances from friends or relatives outside of the country?*. There are different possible responses going from never to at least once a month. We code *remit* as taking the value of zero if the respondent has never received remittances, and 1 if the respondent has received remittances from friends or relatives outside of the country. Table 2 shows the percentage of remittance recipients by country. One can note that the share of respondents who have received remittances varies significantly across countries, and that there is a gap of 44 points between the lowest percentage and the highest one. Madagascar records the lowest value of 4.6% while Cape Verde has the highest value where almost 50% of the individuals interviewed assert that they have received remittances from friends or relatives.

In this paper we are also interested in figuring out the effect of the perception of the most important national priorities on the classification of the respondents into the different clusters detected in our sample. In fact, we argue that those who choose the rights of the people and order in their country as the most important national priorities support democracy as much as the non-recipients, because rights and order are goods that individuals cannot obtain with remittances, and a democratic regime may be more willing to provide such goods. In contrast, people who assert that the economic conditions are the most important national priority may be able to improve their standard of living using remittances, and are then less likely to reply that democracy is the best political regime.



To measure the most important national priorities, we will refer to the questions Q40A and Q40B of the survey. In the former, the respondents are asked the question: *If you had to choose, which one of the following things: Is most important?*. The different possible responses are, 1) Maintaining order in the nation; 2) Giving people more say in government decisions; 3) Protecting people’s right to live freely; and 4) Improving economic conditions for the poor. There are also a few people who reply that the most important national priority is none of these four, and for simplification, we consider them as missing values. The question Q40B follows up and asks: *And which would be the next most important?* We first create three dummy variables: *order1*, *rights1* and *economic1* using Q40A. The variable *order1* takes the value of one if the individual gives the first response, and zero otherwise, while the dummy *rights1* is equal to 1 if the respondent replies either 2 or 3 and 0 otherwise. The dummy *economic1* is 1 if the individual replies 4 and 0 otherwise. Next, we introduce the dummies *order2*, *rights2* and *economic2* for the second most important national priority using question Q40B applying the same codification rule as for the first three dummies. Table 3 shows some descriptive statistics for these indicators of national priorities. Overall, the majority of the people in our sample have chosen economic conditions as the first, most important, national priority. Indeed, we have roughly 59% of the respondents who put economic conditions in the first place, then this value decreases to 27% in the second choice. In contrast, for rights and order, there is a higher proportion of individuals who choose them as the second most important national priority than the first.

As additional controls, we will follow the previous literature and then include the variables that have been significant in previous studies. For instance, we add the respondent’s level of education following the theory of Lipset which claims that education is a pre-requisite for the endorsement and acceptance of a democratic regime <sup>3</sup>. We also control for gender, a variable that has been of interest recent years, where some scholars have been interested in the gender gap in support for democracy in Sub-Saharan African countries <sup>4</sup>. We will also control for additional variables, including the age of the respondents, which may inform us whether youth supports democracy as much as the rest of the population <sup>5</sup>, the employment status, access to media through TV, radio and newspapers, access to food, medicine and water. We also consider a variable measuring whether the respondent has voted during the last elections, and whether the respondent has ever experienced corruption. Table 1 presents some descriptive statistics of the different variables.

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<sup>3</sup>Mattes and Bratton (2001), Bratton and Mattes (2005), Evans and Rose (2007b)

<sup>4</sup>e.g. García-Peñalosa and Konte (2014), Konte (2014b)

<sup>5</sup>See Resnick and Casale (2014) and Resnick and Casale (2011) for investigation on youth and politics in Africa.

### 3 Empirical strategy

We have data for 20 countries indexed by  $j = 1, 2, \dots, 20$ , and  $n_j$  denotes the number of individuals interviewed in country  $j$ . Our dependent variable is support for democracy, denoted by  $SD$ , which is a dichotomous variable that takes a value of 1 if we support democracy and 0 otherwise (see the previous section for explanations). Individuals are nested within country, then people who live in the same country share similar contextual characteristics and in turn they may have some similar behavior. Standard estimation methods ignore such a clustering effect and may then yield biased estimations of the standard errors. The multilevel method has the advantage of taking into account such clustering effects. Multilevel analysis has gained an important place in recent years due to the increase in the available data that has a nested structure. In the next subsection, we will specify our baseline multilevel model. We will then present a brief review of the standard mixture model before moving on to the multilevel mixture of regression model, relaxing the hypothesis that the data is generated by a single model in favor of multiple equations.

#### 3.1 Standard Multilevel Model

Given the dichotomous structure of the variable of interest, we estimate a varying-intercept multilevel (or hierarchical) logit model where individuals are nested within countries. Hence, we will consider a two-level model where the highest level is the country and the lowest level is the respondent. Let us write  $\text{Prob}(SD_{ij} = 1, \omega_{ij})$  for the probability that the individual  $i$  living in country  $j$  supports democracy given  $\omega_{ij}$ . This probability can be expressed as follows:

$$\text{Prob}(SD_{ij} = 1, \omega_{ij}) = \frac{1}{1 + \exp(-\omega_{ij})} \quad (1)$$

where,

$$\omega_{ij} = \beta_0 + \beta_1 \text{remit}_{ij} + \beta_2 \mathbf{X}_{ij} + \epsilon_{ij} \quad (2)$$

Our parameter of interest is  $\beta_1$ , which tells us about the impact of receiving remittances on the probability of supporting democracy. A negative sign means that being a remittance recipient decreases the probability of supporting democracy compared to a non-recipient. The vector  $\mathbf{X}_{ij}$  contains the socio-economic characteristics of individual  $i$  living in country  $j$ . Individuals who live in the same country may not be independent, thus standard errors may be underestimated by the traditional regression techniques. Multilevel modeling has the advantage of taking into

account such a clustering effect by allowing the intercept to vary across countries such that:

$$\begin{aligned} \text{Level 1: } \omega_{ij} &= \beta_{0j} + \beta_1 \text{remit}_{ij} + \beta_2 X_{ij} + \epsilon_{ij}, & \epsilon_{ij} &\sim N(0, \sigma^2), \\ \text{Level 2: } \beta_{0j} &= \beta_{00} + u_j, & u_j &\sim N(0, \delta^2), & \epsilon_{ij} &\perp u_j \end{aligned} \quad (3)$$

Thus the general model can be written as follow:

$$\omega_{ij} = \beta_{00} + \beta_1 \text{remit}_{ij} + \beta_2 X_{ij} + u_j + \epsilon_{ij} \quad (4)$$

The term  $u_j + \epsilon_{ij}$  in Equation 4 represents the random part of the model, where  $u_j$  is the country-specific effect and  $\epsilon_{ij}$  is the individual-level error term.

Using this framework, we do account for the heterogeneity that exists at the country level but we ignore the possible unobserved heterogeneity that may exist at the individual level. In fact, we may have in the data the existence of potential unobserved heterogeneity, in the variation of the estimates across groups of respondents sharing similar but unobserved characteristics. For instance, the effect of *remit* on the degree of support for democracy may depend on the latent class to which an individual belongs to. Such heterogeneity can be captured at the lowest level, and may not be properly taken into account when we only consider heterogeneity at the country level by allowing the intercept to vary across countries as in Equation 4. As mentioned by Asparouhov and Muthen (2009), unobserved heterogeneity may exist not only at level 2 at the expense of level 1. Using simulated and real data, these authors have pointed out that: “*level 1 heterogeneity in the form of latent classes can be mistaken for level 2 heterogeneity in the form of the random effects that are used in conventional two-level regression analysis*”. Thus applying the multilevel mixture model we will be able to take into account possible unobserved heterogeneity at both levels, the lowest and the highest.

### 3.2 Multilevel Finite Mixture Model

The finite mixture model (McLachlan and Peel (2000), Frühwirth-Schnatter (2006)) has rapidly attracted increasing interest over the last decades in a number of subjects, including in social sciences and behavioral studies. It is an appropriate technique for endogenously taking into account the possible unobserved heterogeneity that may exist in the data. For multilevel (or hierarchical) data, individuals are nested within countries, and thus the standard mixture method may violate this dependency assumption. Thanks to the influential research by numerous scholars (Vermunt (2003), Asparouhov and Muthen (2008), Asparouhov and Muthen (2009)), a multilevel finite mixture framework has been proposed with different extensions (parametric and nonparametric) that can be applied to hierarchical data, accounting for the nested structure of the data.

In our previous specification, we have assumed that the effect of remittances on the degree of support for democracy is similar for all the individuals in the sample, without testing the existence of multiple subtypes. We now relax this hypothesis and allow the data to detect whether the data is generated by a model with different subtypes of individuals such that the impact of remittances on the degree of support for democracy varies with the subtype. The subtypes are a priori not observed and are latent.

### 3.2.1 Standard Finite Mixture Model

For simplicity, let us assume that  $(Y, X) = (y_i, x_i)_{i=1}^n$  are a pair of a set random variable  $y_i$  and a set of explanatory variables  $x_i$ . The index  $i$  is the individual index, and  $n$  is the total number of observations. We define  $C_i$  to be the latent cluster variable for a given individual  $i$ , where  $C_i$  varies between 1 and  $K$ . By definition, the mixture of regression model based on the density of  $Y$  conditional on  $X$  is expressed as follows:

$$f(Y|X, \Theta) = \prod_{i=1}^n \left[ \sum_{k=1}^K \pi_k (C_i = k) f_k(y_i|x_i; \beta_k, \sigma_k) \right] \quad (5)$$

where  $\pi_k$  is the probability of belonging to the cluster  $k$ , and  $f_k(y_i|x; \beta_k, \sigma_k)$  is a conditional probability distribution characterized by a set of parameters  $(\beta_k, \sigma_k)$  and of co-variates  $x$ .  $\beta_k$  and  $\sigma_k$  are unknown and hence estimated. We suppose  $f_k$  is a Gaussian distribution.

For a simple illustration if  $K = 1$ , then all the observations are generated by the same data-generating process given by:

$$y_i = x_i\beta + \varepsilon, \quad \varepsilon \sim N(0, \sigma^2) \quad (6)$$

In this case the standard specification in Equation 6 is sufficient to study the impact of  $X$  on  $Y$ . If  $K = 2$  then a mixture of linear regressions assumes that an observation belonging to the first group and one belonging to the second group would not be generated by the same data-generating process. The mixture model with two components reduces to:

$$\begin{aligned} \text{Group 1: } y_i &= x_i\beta_1 + \varepsilon_1, & \varepsilon_1 &\sim N(0, \sigma_1^2), \\ \text{Group 2: } y_i &= x_i\beta_2 + \varepsilon_2, & \varepsilon_2 &\sim N(0, \sigma_2^2), \end{aligned} \quad (7)$$

where  $\varepsilon_1$  and  $\varepsilon_2$  are independent and identical normally distributed error terms with variances of  $\sigma_1^2$  and  $\sigma_2^2$ , respectively.

The choice of the value of  $K$  is crucial and is generally chosen using some goodness of statistical fit criterion such as the Bayesian criterion (BIC) or the Consistent Akaike criterion (CAIC). Once the different parameters of the model are estimated, we may compute, for each

individual in the data, its probability of being classified in the given group  $k$  using the Bayes rule, given by:

$$\hat{\pi}_{ik} = \frac{\pi_k f_k(y_i|x_i; \hat{\beta}_k, \hat{\sigma}_k)}{\sum_{k=1}^K \pi_k f_k(y_i|x_i; \hat{\beta}_k, \hat{\sigma}_k)}$$

In summary, in this standard setting, we can observe that the specification may not be appropriate for a multilevel data structure where individuals are nested within the highest level. For instance, in data where students are nested within schools, or doctors within hospitals, or individuals within countries, the standard mixture method tends to violate the clustering effect. In the next section we are thus going to introduce the extended mixture model, where we consider two latent class variables: one at the lowest level and one at the highest level. Such a specification allows us to take into account the unobserved heterogeneities that may exist at each of the two different levels of the data.

### 3.2.2 Multilevel Finite Mixture Model

Define  $y_{ij}$  to be the response of individual  $i$  living in country  $j$ , and  $n_j$  to be the total number of observations in country  $j$ . Then  $\sum_{j=1}^J n_j = n$ . Denote by  $C_{ij}$  the latent class variable at the lowest level, i.e, at the individual level, and by  $G_j$  the latent class variable at the highest level, i.e, the country level. We suppose that the number of latent classes at the individual level varies between 1 and  $K$ , while the one at the country level varies between 1 and  $L$ . The general multilevel finite mixture model can be written as follows:

$$f(Y|X; \Theta) = \prod_{j=1}^J \left[ \sum_{l=1}^L \pi_l(G_j = l) \left[ \prod_{i=1}^{n_j} f(Y_j|G_j = l; X_j) \right] \right] \quad (8)$$

where,

$$f(Y|G_j = l; X) = \sum_{C_{ij}=1}^K \pi_k(C_{ij} = k|G_j = l) * f(y_{ij}|C_{ij} = k; x_{ij}, \Theta) \quad (9)$$

$\pi_l(G_j = l)$  is the probability that country  $j$  belongs to the latent class  $l$ , and  $\pi_k(C_{ij} = k|G_j = l)$  is the probability that individual  $i$  living in country  $j$  belongs to the latent class  $k$  given that its country belongs to latent class  $l$ . Combining equation 8 and equation 9 we obtain the following likelihood information in 10 that we will maximized using the EM approach for the estimations of the set of parameters  $\pi_l$ ,  $\pi_k$ , and  $\Theta$ :

$$f(Y|X; \Theta) = \prod_{j=1}^J \left[ \sum_{l=1}^L \pi_l(G_j = l) \prod_{i=1}^{n_j} \left[ \sum_{C_{ij}=1}^K \pi_k(C_{ij} = k|G_j = l) * f(y_{ij}|C_{ij} = k; x_{ij}, \Theta) \right] \right] \quad (10)$$

Recall that in this paper our dependent variable is the dummy  $SD_{ij}$ , and our multilevel mixture specification is then given by:

$$P(SD = 1|\omega; \Theta) = \prod_{j=1}^J \left[ \sum_{l=1}^L \pi_l(G_j = l) \prod_{i=1}^{n_j} \left[ \sum_{C_{ij}=1}^K \pi_k(C_{ij} = k|G_j = l) * P(SD_{ij} = 1|C_{ij} = k; \omega_{ij}, \Theta) \right] \right] \quad (11)$$

We can see in this equation that the probability,  $\pi_k(C_{ij} = k|G_j = l)$ , that individual  $i$  living in country  $j$  belongs to a given cluster  $k$  is conditional on the country cluster  $l$  to which its country belongs .

The first hypothesis that we are interested in testing is whether the effect of remittances on the support for democracy varies across groups of individuals sharing similar but unobserved characteristics. For this purpose, we need to investigate whether our data is generated by multiple hidden clusters such that the impact of remittances on the support for democracy depends on the cluster to which a given individual belongs. Hence, using the Equation 10 we will leave the data to detect the optimal number of clusters of individuals, and applying the Bayes rule we will be able to compute the posterior probability that individual  $i$  living in country  $j$  belongs to a cluster  $k$  conditional on the cluster  $l$  to which its country belongs.

Our second question asks is whether an individual's perception of the most important national priority may explain that individual's classification into the different clusters detected endogenously using the above models. For this purpose, we re-estimate our multilevel mixture model already defined in Equation 10 but now augmented by the national priority variables. In fact, we endogenise the parameter  $\pi_k(C_{ij} = k|G_j = l)$  which becomes:  $\pi_k(C_{ij} = k|G_j = l, priority_{ij})$ . Our mixture model augmented with the individuals' priorities can be then written as follows:

$$P(SD = 1|\Omega, \mathbf{priority}; \beta) = \prod_{j=1}^J \left[ \sum_{l=1}^L \pi_l(G_j = l) \prod_{i=1}^{n_j} \left( \sum_{C_{ij}=1}^K \pi_k(C_{ij} = k|G_j = l, priority_{ij}) * P(SD_{ij} = 1|C_{ij} = k; \omega_{ij}, \Theta) \right) \right] \quad (12)$$

## 4 Results and interpretation

### 4.1 Standard estimations

We start by estimating a simple multilevel model under the hypothesis that there exists a unique single cluster. We only assume that individuals are nested within a country and then allow the error terms to vary across countries. The results are reported in Table 4. We start with the first column, which controls for remittances, education, and gender, and then subsequently we

add additional control variables. Across the different columns we find that the coefficient on remittances is negative and statistically significant at the 1% conventional level. This negative sign indicates that receiving remittances from relatives or friends outside the home country decreases the probability of supporting democracy in Sub-Saharan African region. The coefficients on remittances are very similar across the different specifications. This finding suggests that remittances are a curse for the degree of support for democracy, and it is in line with the previous literature that has pointed out that remittances is a curse for politics in Mexico. Our results are also partly in line with the recent study by Dionne et al. (2014), which has found that remittances may hinder some aspects of political involvement, such as voting, in the African context.

Moving on to the other explanatory variables that are included in our estimations, we find a robust significant impact of education on the degree of support for democracy. Indeed, people who have received a formal education have a higher probability of supporting democracy than those who do not. This confirms the previous studies by Evans and Rose (2007b) and it is in line with the theory of Lipset that emphasizes that education is a pre-requisite for the endorsement and acceptance of democratic regimes. In addition, this positive effect of education becomes stronger with the level of education, where individuals with secondary education have a higher probability of supporting democracy than individuals only completing primary education, and those with more than secondary education support democracy more than those with a lower level of education. Across the different specifications, we observe a significant and negative sign on gender, indicating that women are less likely than men to support democracy. This result has received particular attention in the literature, starting with the influential paper in World Development by García-Peñalosa and Konte (2014) who have tried to give potential explanations of this gender gap, and relate it to the level of development and the institutional environment of the countries in which these women live. Also Konte (2014a) has contributed to this debate, and added the informal institutions that affect women's daily life. Among the other co-variables, we find some evidence that access to the media affects positively the probability of supporting democracy, and having been confronted with corruption decreases it, while having voted during the last elections increases it.

In summary, in this section we have provided evidence for a negative effect of remittances on support for democracy in our sample of 20 Sub-Saharan African countries. The results are robust to different specifications and to the inclusion of different individual characteristics. However, in the different specifications, we have estimated a multilevel random intercept that

takes into account possible heterogeneity at the country level but ignores possible unobserved heterogeneity at the individual level. The next section is going to introduce these two types of heterogeneity simultaneously in the model of estimations in the form of latent classes.

## 4.2 Multilevel Mixture of Regression Estimations

### 4.2.1 Hypothesis 1: The Remittance Effect varies across individual subtypes

In this section, we investigate whether there is some unobserved heterogeneity that exists at the individual level, and we model this heterogeneity in terms of latent clusters. We try to find out whether the respondents in the sample fall into different clusters in such a way that the effect of remittances on the degree of endorsement and support for democracy depends on the cluster. We first estimate the model in Equation 11 using different values for the individual latent clusters  $K$  and for the country latent clusters  $L$ . For each combination of  $(k, l)$ , we estimate Equation 11 and present the goodness of fit. Doing so, we are able to take into account the unobserved heterogeneity that exists at the lowest level and also the heterogeneity at the highest level. Table 5 shows the values of two statistical information criteria: the BIC and the CAIC. The optimal model is the one that has the lowest values of these two quantities. We find that our best model is the one with two individual latent clusters and 6 different groups of countries. We also observe that the models where we consider simultaneously the heterogeneity in both levels, the lowest and the highest, perform better than the models where we consider heterogeneity only at a single level.

We next present the estimation results of our preferred model in Table 6, where we present the estimated coefficients by cluster. Focusing on our parameter of interest, *remitt*, we find that the coefficients across the different clusters are quite different. In fact, in the first cluster the coefficients on *remitt* is negative and significant at the conventional level of 1%. This indicates that in this cluster, remittance recipients are less likely than others to support democracy. In contrast, in the second cluster the coefficient on *remitt* is not significant, indicating that remittances do not have any impact for this cluster on the probability of supporting democracy. Thus, in the second cluster, remittance recipients are as likely as non-recipients to support democracy. This result is in line with our first hypothesis, showing that individuals in our data do not behave similarly in politics.

Turning now to the additional explanatory variables included in our model, we find that for all the coefficients that are significant, the signs are similar across the two latent clusters (except for the coefficients on *water*). For instance, the level of education has a positive effect on the degree of support for democracy for the two clusters and the magnitude of the coefficients



decreases with the level of education. However, the magnitude of the coefficients are higher for the second cluster, indicating that the effect of education on the degree of support for democracy is stronger in the second cluster than in the first. Regarding the effect of being a woman on the probability of supporting democracy, our results go in the same direction as the previous literature, which has found that in Sub-Saharan Africa, there is a gender gap in the support for democracy, and that women are less likely to support democracy than are men (e.g, García-Peñalosa and Konte (2014)). We also find a stronger effect of having been confronted with corruption on the support for democracy in the second cluster than in the first one.

Table 6 shows the proportion of respondents within countries that have a higher probability of being in the remittance curse cluster than in the second cluster where remittances have a neutral effect on the degree of support for democracy. Half of the countries have all of their respondents sorted into the first cluster.<sup>6</sup> Madagascar is the only country for which all the respondents are fully classified into the second cluster. Table 7 shows the classification at the highest level, i.e., at the country level. Recall that our best model contains 6 country clusters. In this table, we can observe that our classification is probabilistic. Indeed, for almost all the countries (except Liberia), the probability of being sorted into a cluster is equal to 1. In addition, we have some heterogeneity in our classifications. Countries with different characteristics and different sizes belong to the same group. For instance, in the third group we have Botswana, which shares the same group with Benin and Uganda, while Cape Verde and Mali are together in the first group. Lesotho and Madagascar are each alone in their own groups.

In summary, we have found, in an endogenous manner, that individuals behave differently in politics and that the effect of remittances on the degree of endorsement and support for democracy in Sub-Saharan African depends on the cluster that we consider. Indeed, our data is better generated by a model with two different clusters, one in which remittances are harmful for the legitimacy of democracy, and a second in which remittances do not affect people support for democracy. We are next going to consider to what extent does the individual perception of the main national priority determine the classification of the respondents into the clusters.

#### **4.2.2 Hypothesis 2: The perception of the national priorities determines the classification of the individuals into the clusters**

To investigate how important is the role played by the perception of the national priority in the degree of support for democracy, we estimate now the augmented model in Equation 12, where we have added the variable *priority* to our baseline model. Table 9 shows the estimated

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<sup>6</sup>These countries are Benin, Botswana, Cape Verde, Ghana, Kenya, Liberia, Malawi, Mali Uganda and Zambia

coefficients of this extended model. All the variables that appear in Table 6 are also controlled for, but some are not shown here. We still find that the effect of remittances is negative in the first cluster but insignificant in the second one. However, the coefficient of *remit* in the first cluster is slightly higher than in the previous Table 6. Regarding the other explanatory variables, we can stress that the results are very similar to the ones reported in the previous table except for the coefficients on *educ1* that are higher now. The classification of the individuals shown in Table 11 is slightly different from our previous classification, because now we have not found any country for which all the respondents are included in the first cluster.

The bottom of Table 9 shows the coefficients on the concomitant variables. Recall that in the data description section we defined three different national priorities: rights, order, and economic. We are trying to assess whether an individual's choice of the main national priority may affect the probability of being sorted into a cluster. This allows us to test whether an individual who has chosen a national priority that can only be provided at the public level is more likely to be sorted into the second cluster where remittances do not hurt support for democracy. A multinomial logit model is estimated where the reference group is the first cluster. We first control for *order1* and *rights1* as determinants of the probability of being in the second cluster. Our results show that the coefficient on *order1* is positive but not significant while the one on *rights1* is positive and statistically significant. This finding indicates that choosing *rights1* as the main national priority increases the probability of being in the non remittance-course cluster.

We have further checked additional checking for the validation of our hypothesis. The estimation results are shown in Table 10. We first replace *order1*, *rights1* and *economic1* by *order2*, *rights2* and *economic2*. These new national priority variables are coded using the question Q41 of the survey where people are asked to give the second most important national priority. With these new measures of national priorities, we expect the possibility of finding a negative sign on the coefficients of *rights2* and *order2* because we assume that having, for instance, rights as the next most important national priority means that it was not awarded the first place. We now control for *right2* and *order2*, keeping *economic2* as the reference variable. The results show a significant impact of having rights and freedom as national priority but the sign turns now negative, indicating that people who have chosen *rights* as the second most important national priority are less likely to be in the non remittance-course cluster. This result is quite interesting because it tells us that when individuals do not think that rights are the first most important national priority, then they do not see the importance of supporting democracy. The coefficient

on *order2* remains insignificant, even though the sign is negative. In the last specification, we control simultaneously for the two significant variables, *right1* and *rights2*, and the results show that only the effect on *righst1* remains significant.

In summary, the different specifications present in Table 9 and in Table 10 show that the perception of individual national priorities is an important determinant for the classification of respondents into the two detected clusters. Indeed, when focusing on the most important national priority, we do find that choosing the rights and individual freedoms as the most important national priorities increases the probability of avoiding the remittance-curse cluster. However, when focusing on the second most important national priority, we find that people putting rights and individual freedoms in the second place are more likely to be classified into the remittance-curse group.

## 5 Concluding Remarks

Many nations across the Sub-Saharan Africa have received considerable amount of international inflows, including International Official Aid and the international inflows from Foreign Direct Investment inflows. The World Bank reports a growing amount of remittances received in many African countries by households left behind at home from relatives or friends abroad. A number of studies have investigated the effects of remittances on different socio-economic outcomes, including poverty, consumption, inequality, and economic growth. Yet, little is known about the attitudinal and behavioral effects on politics of these inflows in the African context, while research into their effect on the degree of endorsement and support for democracy has been quite nonexistent as far as this region is concerned, a region where democracy is a relatively new concept.

In this paper, we examined the effect of remittances on the legitimacy of democracy in Africa, testing whether remittance recipients are less likely to support democracy than are the non-recipients. We argue that the effect of remittances on the support for democracy varies across groups of individuals sharing similar but unobserved background characteristics. Our approach consists in determining endogenously whether our data is better generated by multiple hidden clusters of similar individuals in such a way that the effect of remittances on the degree of support for democracy depends on the cluster to which belongs the person receiving the remittances. This provide more flexibility and a better fit of the data.

Using the Afrobarometer surveys we find that our data is better generated by an econometric model of two different clusters of individuals. In the first cluster remittance recipients are less

likely than are non-recipients to support democracy, while in the second cluster, remittance recipients support democracy as much as do the non-recipients. Our analysis of the determinants of the probability of being in the remittance curse cluster indicates that the perception of the most important national priorities plays an important role. Indeed, people who have chosen rights and freedom as the most important national priority have a greater chance of being sorted into the second cluster than respondents who have chosen national priorities that are oriented towards the economic conditions in their own country.

This paper has provided new evidence for the effect of remittances on politics in Africa. It has shown that such non-taxable income may hinder the much needed legitimacy of democracy in this region if the individuals are more concerned about the improvement of their economic conditions than their rights and freedom.

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Table 1: Afrobarometer: Descriptive statistics

Variable	Question		Nb	Percentage
Support for democracy	q30	Yes	19285	69.60
		No*	8422	30.40
Female	q101	Male*	13837	49.93
		Female	13876	50.07
Education	q89	No Formal*	5625	20.33
		Some Primary	5111	18.47
		Primary	9847	35.59
		Secondary	4165	15.05
		Post-secondary	2921	10.56
Age	q101	<26*	7529	27.50
		<36	8059	29.43
		>35	11792	43.07
Location	URBRUR	Urban	10521	37.96
		Rural*	17192	62.04
Head of the Household	q2	Yes*	14186	51.61
		No	13301	48.39
Employment status	q94	Inactive	8748	31.68
		Unemployed	9507	34.43
		Employed*	9358	33.88
Access Media through radio	q12a	Yes	23997	86.70
		No*	3681	13.30
Access Media through TV	q12b	Yes	15053	54.45
		No*	12591	45.55
Access Media through paper	q12c	Yes	11201	40.61
		No*	16384	59.39
Gone without Food	q8a	Yes	15346	55.50
		No*	12305	44.5
Gone without Water	q8b	Yes	13345	48.23
		No*	14324	51.77
Gone without Medecine	q8c	Yes	16254	58.99
		No*	11299	41.01
Been corrupted	q51a	Yes	5801	21.19
		No*	21571	78.81
Have voted	q23d	Yes	19471	70.64
		No*	8093	29.36

\* indicates the reference group in the estimations.



Table 2: Percentage of remittance-recipients by country

Country	Remit
Benin	12.28
Botswana	11.43
Burkina Faso	23.09
Cape Verde	49.04
Ghana	22.53
Kenya	10.86
Lesotho	30.05
Liberia	22.29
Madagascar	4.63
Malawi	10.63
Mali	24.27
Mozambique	10.42
Namibia	16.16
Nigeria	24.76
Senegal	31.13
South Africa	15.76
Tanzania	5.35
Uganda	12.88
Zambia	9.55
Zimbabwe	30.42

Table 3: Perception of national priorities in percent

	First most important	Second most important
Rights	24.95	50.01
Order	16.49	23.2
Economic	58.57	26.79
Total	100	100

Table 4: Remittances and Support for Democracy: A Multilevel Analysis

Reference	Varibale	(1)	(3)	(5)	(7)
No	remit	-0.116*** (0.0369)	-0.135*** (0.0374)	-0.164*** (0.0379)	-0.156*** (0.0385)
No formal	educ1	0.216*** (0.0452)	0.238*** (0.0468)	0.200*** (0.0475)	0.191*** (0.0481)
	educ2	0.566*** (0.0415)	0.624*** (0.0448)	0.540*** (0.0465)	0.556*** (0.0472)
	educ3	0.708*** (0.0522)	0.778*** (0.0565)	0.652*** (0.0595)	0.674*** (0.0604)
	educ4	0.944*** (0.0602)	0.981*** (0.0649)	0.821*** (0.0689)	0.847*** (0.0699)
Male	Female	-0.348*** (0.0278)	-0.323*** (0.0302)	-0.294*** (0.0307)	-0.297*** (0.0312)
< 26	age2		0.113*** (0.0383)	0.120*** (0.0387)	0.0289 (0.0405)
	age3		0.304*** (0.0402)	0.313*** (0.0406)	0.189*** (0.0428)
rural	urban		0.107*** (0.0317)	0.0515 (0.0338)	0.0628* (0.0343)
No	head		-0.0185 (0.0340)	-0.0326 (0.0343)	-0.00433 (0.0349)
Employed	inactive		0.0553 (0.0384)	0.0766** (0.0389)	0.0887** (0.0394)
	Unemployed		-0.000312 (0.0367)	0.0360 (0.0371)	0.0426 (0.0377)
No	radio			0.265*** (0.0431)	0.245*** (0.0438)
No	tv			0.0498 (0.0386)	0.0697* (0.0391)
No	paper			0.0871** (0.0388)	0.0843** (0.0393)
No	food			-0.184*** (0.0338)	-0.187*** (0.0342)
No	water			0.0298 (0.0321)	0.0325 (0.0325)
No	medecine			-0.0733** (0.0345)	-0.0617* (0.0349)
N	corruption				-0.151*** (0.0371)
No	vote				0.365*** (0.0337)
	Constant	0.661*** (0.133)	0.414*** (0.142)	0.333** (0.146)	0.165 (0.146)
	Observations	27,352	26,736	26,422	26,022
	Number of country	20	20	20	20

The table reports coefficients from the multilevel logit estimation, the dependent variable is *support for democracy*. Standard errors are in parenthesis. \*\*\* denotes significant at 1%, \*\* significant at 5%,

\* significant at 10%.

Class	Gclass	BIC	CAIC
1	1	30848.98	30869.98
2	1	30951.42	30994.42
3	1	31061.50	31126.50
4	1	31194.89	31281.89
5	1	31304.21	31413.21
6	1	31395.99	31526.99
2	2	29987.09	30032.09
3	2	30091.19	30159.19
4	2	30216.12	30307.12
5	2	30366.78	30480.78
6	2	30465.08	30602.08
2	3	30351.13	30465.13
3	3	29773.03	29844.03
4	3	29945.95	30040.95
5	3	30015.51	30134.51
6	3	30135.61	30278.61
2	4	29669.36	29718.36
3	4	29718.65	29792.65
4	4	29849.11	29948.11
5	4	29953.14	30077.14
6	4	30096.94	30245.94
2	5	29637.59	29688.59
3	5	29710.75	29787.75
4	5	29852.72	29955.72
5	5	29975.35	30104.35
6	5	30110.69	30265.69
6	6	30130.03	30291.03
2	6	<b>29626.83</b>	<b>29679.83</b>
3	6	29705.66	29785.66
4	6	29834.05	29941.05
5	6	2992.19	30126.19
2	7	29644.09	29699.09
3	7	29694.86	29777.86

This table reports the goodness of fit for the different multilevel mixture models estimated, using different values for the number of clusters. Class refers to the number of clusters at the individual level while Gclass refers to the number of clusters at the country level. Selected model in bold.

Table 6: Remittances and Support for Democracy: A Multilevel Mixture Analysis

Reference	Variable	Class 1 ( $\pi_1=0.795$ )	Class 2 ( $\pi_2=0.205$ )
No	remit	-0.1811*** (0.0685)	-0.1643 (0.1382)
No formal	educ1	0.1967*** (0.0719)	0.716*** (0.2417)
	educ2	0.3844*** (0.071)	1.6151*** (0.2461)
	educ3	0.5664*** (0.1045)	1.6791*** (0.2702)
	educ4	0.6022*** (0.1222)	2.0672*** (0.2893)
Male	female	-0.3341*** (0.0544)	-0.3513*** (0.0962)
< 26	age2	0.0507 (0.068)	-0.011 (0.1294)
	age3	0.1763** (0.0719)	0.308** (0.1299)
rural	urban	0.073 (0.0589)	0.0707 (0.1013)
No	head	-0.0462 (0.0583)	0.0769 (0.1043)
Employed	inactive	0.1197* (0.0653)	0.0456 (0.1124)
	unemployed	0.1073 (0.0656)	-0.1078 (0.1145)
No	radio	0.241*** (0.0685)	0.4776*** (0.1696)
No	tv	0.0979 (0.0619)	0.1555 (0.1192)
No	paper	0.1083 (0.0675)	0.0561 (0.1158)
No	food	-0.1674*** (0.0581)	-0.3197*** (0.1015)
No	water	0.163*** (0.0561)	-0.2345** (0.0998)
No	medecine	-0.0721 (0.0609)	-0.0708 (0.1005)
No	vote	0.4175*** (0.0574)	0.4258*** (0.1012)
No	corruption	-0.1169* (0.0616)	-0.3727*** (0.1271)
	constant	0.7496*** (0.1331)	-2.3212*** (0.3271)
Total observations		26022	
Overall R-squared		0.3479	

This table reports the estimation results of the selected multilevel mixture model from table 5 with K=2 and L=6. \*\*\* significant at 1%. \*\* significant at 5%, \* significant at 10%. Standard errors are in brackets.

Table 7: Classification of countries

Gclass1	Gclass2	Gclass3	Gclass4	Gclass5	Gclass6
Cape Verde(1)	Burkina Faso(1)	Benin(1)	Mozambique(1)	Lesotho(1)	Madagascar(1)
Ghana(1)	Nigeria(1)	Botswana(1)	Namibia(1)		
Kenya(1)	Senegal(1)	Uganda(1)	South Africa(1)		
Liberia(0.99)	liberia(0.01)	Zambia(1)			
Malawi(1)	Nigeria(1)				
Mali(1)	Tanzania(1)				
	Zimbabwe(1)				

This table reports the classification of the countries into the different 6 country clusters found. In parenthesis are the probability of being in a given cluster Gclass.

Table 8: Classification of respondents

Country	Total Obs	percentage in Cluster 1
Benin	1153	100
Botswana	1174	100
Burkina Faso	1063	64.72
Cape Verde	1159	100
Ghana	1128	100
Kenya	1019	100
Lesotho	1146	35.60
Liberia	1166	100
Madagascar	1276	0
Malawi	1089	100
Mali	1201	100
Mozambique	1056	60.79
Namibia	1177	64.40
Nigeria	2121	77.09
Senegal	1067	71.32
South Africa	2211	67.29
Tanzania	1160	75
Uganda	2344	100
Zambia	1153	100
Zimbabwe	1159	74.55
Total	26022	79.55

This table reports by country the percentage of respondents that have a higher probability of belonging to the remittance curse cluster.

Table 9: Remittances, Support for Democracy and First National Priority

Reference	Variable	Class 1 ( $\pi_1=0.73$ )	Class 2 ( $\pi_2=0.27$ )
No	remit	-0.2616** (0.1175)	-0.0675 (0.1283)
No formal	educ1	0.23** (0.1153)	0.393** (0.1988)
	educ2	0.4091*** (0.1158)	1.1836*** (0.2022)
	educ3	0.5915*** (0.1803)	1.2962*** (0.227)
	educ4	0.5984*** (0.2127)	1.6478*** (0.2475)
Male	female	-0.4143*** (0.1105)	-0.3758*** (0.0918)
< 26	age2	0.0221 (0.1163)	0.0648 (0.1272)
	age3	0.1078 (0.1287)	0.4074*** (0.1284)
rural	urban	0.137 (0.1025)	0.0345 (0.0965)
No	vote	0.5073*** (0.1171)	0.4091*** (0.097)
No	corruption	-0.0761 (0.1041)	-0.3595*** (0.1195)
	Constant	1.1806*** (0.3093)	-2.0926*** (0.2874)
Concomitant			
	Order1	-	0.1148 (0.0870)
	rights1	-	0.4632*** (0.0868)
Total observations		25800	
Overall R-squared		0.49	

This table reports the estimation results of the selected multilevel mixture model that includes the perception of the first most important national priority as concomitants with K=2 and L=6.

\*\*\* significant at 1%. \*\* significant at 5%, \* significant at 10%. Standard errors are in brackets.



Table 10: Remittances, Support for Democracy and National Priority

Reference	Variable	Cluster 1 ( $\pi_1=0.85$ )	Cluster 2 ( $\pi_2=0.15$ )	Cluster1 ( $\pi_1=0.73$ )	Cluster2 ( $\pi_2=0.27$ )
No	remit	-0.2074*** (0.0559)	-0.1421 (0.1499)	-0.2432** (0.1201)	-0.0859 (0.1282)
Male	female	-0.3292*** (0.0465)	-0.3067*** (0.102)	-0.4141*** (0.1164)	-0.3653*** (0.0921)
No	educ1	0.1982*** (0.0618)	0.537** (0.2627)	0.2085* (0.1201)	0.3883* (0.1999)
	educ2	0.4403*** (0.062)	1.4054*** (0.2875)	0.3797*** (0.1198)	1.1538*** (0.2035)
	educ3	0.5735*** (0.0872)	1.481*** (0.3092)	0.551*** (0.1856)	1.2749*** (0.2277)
	educ4	0.6643*** (0.1021)	1.862*** (0.3305)	0.5568** (0.2199)	1.6292*** (0.2496)
< 26	age2	0.0494 (0.0587)	0.0103 (0.139)	0.0092 (0.1228)	0.079 (0.1285)
	age3	0.1739*** (0.0618)	0.3063** (0.1388)	0.1133 (0.1346)	0.391*** (0.1298)
rural	urban	0.0952* (0.0504)	0.1107 (0.1074)	0.1239 (0.1056)	0.0516 (0.0967)
No	vote	0.3835*** (0.0502)	0.3986*** (0.1108)	0.519*** (0.1271)	0.3965*** (0.0977)
No	corruption	-0.1315** (0.0526)	-0.3886*** (0.1427)	-0.0893 (0.1071)	-0.3597*** (0.1199)
	constant	0.658*** (0.1163)	-2.1424*** (0.4077)	1.2146*** (0.3319)	-1.9875*** (0.2909)
	Concomitant				
	rights1	-		-	0.466*** (0.0915)
	order2	-	-0.0558 (0.1416)	-	
	rights2	-	-0.3140*** (0.1155)	-	0.0592 (0.0645)
	Total observations		25506		25449
	Overall R-squared		0.2726		0.4891
	BIC		29011.257		28885.7419
	CAIC		29066.257		28940.7419

This table reports the estimation results of the selected multilevel mixture model that includes the perception of the first and second most important national priority as concomitant variables with  $K=2$  and  $L=6$ . \*\* significant at 5%, \* significant at 10%. Standard errors are in brackets.

Table 11: Percentage of individuals in cluster 1 by country

Country	Total obs	percentage in cluster 1
Benin	1152	98.69
Botswana	1174	98.55
Burkina Faso	1046	59.46
Cape Verde	1151	84.54
Ghana	1122	83.33
Kenya	998	83.17
Lesotho	1137	27.35
Liberia	1162	77.28
Madagascar	1254	0
Malawi	1074	80.45
Mali	1196	82.11
Mozambique	1038	61.18
Namibia	1173	64.36
Nigeria	2111	72.43
Senegal	1063	69.71
South Africa	2161	67.79
Tanzania	1153	72.16
Uganda	2338	97.35
Zambia	1142	98.16
Zimbabwe	1155	68.66

This table reports by country the percentage of respondents that have a higher probability of belonging to the remittance curse cluster using the estimations in table 9.

**UNU-MERIT Working Papers**

**ISSN 1871-9872**

**Maastricht Economic and social Research Institute on Innovation and Technology,  
UNU-MERIT**

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