The effects of remittances on support for democracy in Africa

Journal of Comparative Economics 44 (2016) 1002–1022

Contents lists available at ScienceDirect

Journal of Comparative Economics

journal homepage: www.elsevier.com/locate/jce

The effects of remittances on support for democracy in Africa: Are remittances a curse or a blessing?

Maty Konte*

United-Nations University (UNU-MERIT), The Netherlands

ARTICLE INFO

Article history:
Received 25 May 2015
Revised 13 February 2016
Available online 21 March 2016

JEL Classification:
D01
F24
O55

Keywords:
Migrant remittances
Support for democracy
Multilevel mixture-regressions

ABSTRACT

Konte, Maty—The effects of remittances on support for democracy in Africa: Are remittances a curse or a blessing?

We examine the effect of remittances on the legitimacy of democracy in Africa, testing whether remittance recipients are less likely to support democracy than non-recipients. We hypothesize that the effect of remittances on support for democracy varies across classes (i.e., groups or subtypes) of individuals sharing similar but unobserved background characteristics. Using the Afrobarometer surveys, we try to find out whether the respondents fall into different hidden classes in such a way that the effect of remittances on the degree of support for democracy depends on the class. Our results support that remittances may be a curse for the degree of endorsement and support for democracy, depending on the class of individuals that we consider. The analysis of the probability of being in the remittance curse class indicates that the perception of national priorities plays an important role. People who attest that freedom and rights are the main national priorities have a lower probability of belonging to the remittances curse class than individuals who choose national priorities that are oriented towards the economic conditions of their country. *Journal of Comparative Economics* **44**(4) (2016) 1002–1022. United-Nations University (UNU-MERIT), The Netherlands.

1. Introduction

Remittance inflows have rapidly increased in many developing countries, including in sub-Saharan Africa, over the recent years. Influential studies have 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). Recent work has attempted to go beyond the effects of remittances on development, and has tried to establish 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, i.e. 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, which have

* Fax: +31 43 388 4499.
E-mail address: konte@merit.unu.edu

http://dx.doi.org/10.1016/j.jce.2016.02.004
0147-5967/

looked at how remittances influence the political participation and involvement of those left behind at home (Goodman and Hiskey, 2008; Germano, 2013).[1]

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; Ebeke and Yogo, 2013). Furthermore, studies of the effect of such inflows on the legitimacy of democracy[2] (or the degree of support for democracy) are quite non-existent. This paper will bring remittances into this part of the literature, and look at their effect on the degree of support for democracy on the part of the individuals left behind at home in this region.

It has been asserted that the degree or the extent to which people support democracy in a country is a prerequisite 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 individual socio-economic characteristics have been proposed as determinants of support for democracy in Africa, among them education (Evans and Rose, 2007a, 2007b), religion (MacCauley and Gyimah-Boadi, 2009) and gender (García-Peñalosa and Konte, 2014 and Konte and Klasen, 2016).

Yet, previous literature on the determinants of support for democracy in sub-Saharan Africa has not considered the role of remittances in this context, despite the growing amount of remittances in many sub-Saharan African countries and the recent studies that have associated remittances with negative effects on political behaviors and attitudes of individuals left behind in Africa (Ebeke and Yogo, 2013), and elsewhere in major remittance-receiving countries, such as Mexico (Goodman and Hiskey, 2008; Germano, 2013). Our paper completes this previous literature and brings remittances into the analysis of the determinants of support for democracy in Africa.

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 all behave similarly in politics and that the effect of remittances on support for democracy varies across classes (or groups or subtypes) of individuals sharing similar but unobserved background characteristics. We attempt to account for possible unobserved heterogeneity that may exist in the data using a novel method recently developed for survey data like ours, where individuals who present different observed and unobserved characteristics, and from different countries, are all pooled together. We then try to find out whether the respondents fall into different hidden classes in such a way that the effects on the degree of support for democracy of individual socio-economic characteristics, including receiving remittances or not, vary across the identified classes.

Second, the paper provides an analysis of the determinants of the probability for a given individual to be not located in the remittance curse class. As potential determinants, we propose the perception of the most important national priority by the individuals, distinguishing between freedom and rights, order in the nation, and the economic condition. We focus on the individuals' perception of the main national priority in their country, 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 some of the issues prioritized can be improved at the individual level, using money from remittances, while others can only be achieved exclusively through government actions, for example, freedom and rights, or order in the nation.

Conceptually, a democratic regime is more willing to provide and secure freedom and rights to its citizens compared to a non-democratic regime. It is also understandable to assume that freedom and rights can only be provided at the public level but not at the individual level using money from remittances received. As such, for citizens who claim that the most important national priority is freedom and rights, we are less likely to observe a difference between remittance recipients and non-remittance recipients in terms of attitude towards supporting a democratic regime. We then expect that having freedom and rights as the most important national priority increases the probability of belonging to the class where receiving remittances does not affect the degree of support for democracy.

Similarly, order in the nation cannot be acquired individually using money from remittances. However, in contrast to freedom and rights, there is no consensus in sub-Saharan Africa that democratic regimes are more willing to secure order in the nation than are non-democratic regimes. Different events have shown that in many sub-Saharan African countries, the process of democratization has been accompanied by disorder and civil conflicts. This high cost of democratization may be viewed as the "downside of democracy". Therefore, for individuals who have order in the nation as the most important national priority, we may expect different scenarios. First, for these individuals we may not observe a difference between remittance recipients and their counterpart because of the nature of order that cannot be offered at the individual level using money from remittances. Second, remittance recipients may be less likely to demand more democracy because of the high cost to them in the loss of their economic improvement acquired from remittances if democracy is perceived as a source of conflict and disorder.

Regarding the national priority oriented towards the economic condition, we may observe a difference between those who receive remittances and those who do not in terms of support for democracy. With regard to remittance recipients

[1] It has also been addressed the link between remittances and the process of democratization during the municipality elections in Latin America (e.g, Pfutze, 2014; 2012).

[2] The definition of legitimacy by Lipset (1963) is Belief that the existing political institutions are the most appropriate ones for the society (see Fails and Pierce, 2010).

who may improve their economic condition using money from remittances, regardless of the type of political regime that they have in their own country, they may not necessarily be interested in politics and in having a democratic regime. This may in turn hamper the much needed legitimacy of democracy in this region. Therefore, compared to individuals who have chosen freedom and rights as the first and most important national priority, having the economic condition as the most important national priority may reduce the probability of belonging to the group of individuals where remittances do not reduce the legitimacy of democracy.

Our empirical approach consists of applying the newly developed method of multilevel mixture of regressions analysis (Asparouhov and Muthen, 2009; Henry and Muthen, 2010), which incorporates a latent variable to classify individuals into different classes. This approach provides a better fit for a multilevel data structure and it enables any possible unobserved heterogeneity that may exist at the individual and at the country levels of the data to be taken into account. We relax the hypothesis that all the individuals behave similarly, and test whether remittances are a curse or a blessing depends on the class to which an individual belongs. This also enables us next to determine whether the perception of the main national priority helps to explain the link between remittances and support for democracy. Our analysis is based on round 4 of the Afrobarometer, which is, to the best of 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 subtypes. In the first class, remittances have a negative impact on the probability of supporting democracy, while in the second class the effect is neutral. The analysis of the determinants of the probability of being in the remittance curse class indicates that having rights and freedom as the first, most important national priority increases the probability of being classified into the second class where remittance recipients are as likely to support democracy as are non-remittance recipients, compared to having economic conditions as the first, most important national priority. However, when rights and freedom are ranked as the second most important national priority, the sign turns negative, indicating that having rights and freedom as the second most important national priority decreases the probability for an individual to be located in the second class, compared to having economic condition as the second most important national priority. Regarding the national priority of order in the nation, we do not find any significant effect on the estimated coefficient, regardless whether it is considered as the first or the second most important national priority.

The remainder of this paper is structured as follows. The next section gives a comprehensive review of the literature, closely related to our paper. Section 3 describes the data, while Section 4 sets up the empirical model. Section 5 discusses our empirical results, and finally, the last Section 6 provides some concluding remarks.

2. Related literature

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 who lack sufficient 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 labour to leisure. Remittances may also engender 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). While these different papers have shed some light on the relationship between remittances and important development features, they have not addressed how remittances may affect the institutional environment, something that may help to ensure a sustainable effect of remittances on development.

This paper is also related to the literature that has gone beyond the development sphere, looking at whether remittances may be detrimental to the quality of institutions. For example, 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 are deleterious to the quality of institutions. The argument behind this finding is that an increase in the level of remittances can be perceived by leaders as substitutes to public goods spending. As such, this may increase the time that a government will spend on rent-seeking activities. Similarly, this may decrease the investment in public goods, given that remittance recipients may procure such goods on their own, using money from remittances if such goods are non-existent or poorly provided.

In addition, there is an influential part of the literature that has focused on the attitudinal and behavioral effects of remittances on politics. Some studies have investigated this issue in Latin America, mainly in Mexico. The findings show that remittances are detrimental to people's participation and involvement in 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 a high level of out-migrants, Germano (2013) carried out a deeper empirical analysis and found that

remittance recipients are less likely to pressure and oppose politicians, because they are more optimistic about their economic conditions.

In the African context, few studies, including those by Ebeke and Yogo (2013) and Dionne et al. (2014), have provided evidence on the effects of remittances on individual behavior in politics. In their seminal paper, Dionne et al. (2014) have found mixed results to the question of whether remittances are a curse or a blessing for political participation in sub-Saharan Africa. They highlight that while remittance recipients are less likely to vote, confirming the study by Ebeke and Yogo (2013), 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 one, where many scholars have supported the thesis of the curse of remittances in political participation (Goodman and Hiskey, 2008; Germano, 2013). These different papers have investigated in depth the link between remittances and political participation, ignoring the effect of remittances on political regime preference, such as whether remittance receivers are more likely or less likely to support democratic regimes in Africa, where democracy has had a relatively short history.

Finally, this paper is closely related to the literature on the determinants of the support for democracy in sub-Saharan African countries. 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 considered right and proper (Lipset, 1963), is important for their sustainability and their effectiveness. 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, which argues that education is a prerequisite 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 likely than men 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 and Klasen (2016) 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 focused much on remittances, which are another source of revenue, non-taxable and go directly to households who may in turn use them to buy public goods that are poorly provided. Our paper provides, then, the first study that links remittances to support for democracy using surveys data from different sub-Saharan African countries.

3. Data: the Afrobarometer

For our empirical analysis we will use the round 4 of the Afrobarometer, which, as far as we are aware, is the only survey of the Afrobarometer that provides information about whether the respondents receive remittances or not. Round 4 includes 27,000 individuals interviewed 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 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 do not know. Indeed, it is not obvious how to rank these different responses in terms of preference for democracy. In other words, we cannot ensure whether reply (2) indicates a higher or a lower degree of support for democracy than (3). Hence, we follow the standard procedure 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, and 0 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 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, ranging 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. It can be noted 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 finding the effect of the perception of the most important national priorities on the classification of the respondents into the different latent classes detected in our sample. We test whether individuals who assert that freedom and rights, and order in the nation as the most important national priorities, are more likely or less likely to be classified in the remittances curse class than those individuals who prioritize the economic condition. 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

Table 1
Afrobarometer: descriptive statistics.

Variable	Question	Category	Observations	Percentage
Support for democracy	q30	Yes	19,285	69.60
		No[a]	8422	30.40
Gender	q101	Female	13,876	50.07
		Male[a]	13,837	49.93
Education	q89	Some primary	5111	18.47
		Primary	9847	35.59
		Secondary	4165	15.05
		Post-secondary	2921	10.56
		No formal[a]	5625	20.33
Age	q101	< 36	8059	29.43
		> 35	11,792	43.07
		< 26[a]	7529	27.50
Location	URBRUR	Urban	10,521	37.96
		Rural[a]	17,192	62.04
Head of the household	q2	No	13,301	48.39
		Yes[a]	14,186	51.61
Employment status	q94	Inactive	8748	31.68
		Unemployed	9507	34.43
		Employed[a]	9358	33.88
Access media through radio	q12a	Yes	23,997	86.70
		No[a]	3681	13.30
Access media through TV	q12b	Yes	15,053	54.45
		No[a]	12,591	45.55
Access media through paper	q12c	Yes	11,201	40.61
		No[a]	16,384	59.39
Have ever gone without food	q8a	Yes	15,346	55.50
		No[a]	12,305	44.5
Have ever gone without water	q8b	Yes	13,345	48.23
		No[a]	14,324	51.77
Have ever gone without medecine	q8c	Yes	16,254	58.99
		No[a]	11,299	41.01
Have ever gone without cash	q8e	Yes	21,534	78.16
		No[a]	6017	21.84
Have voted in the last elections	q23d	Yes	19,471	70.64
		No[a]	8093	29.36
Interest in political affairs	q13	Very	9265	33.76
		A little bit	13,071	47.62
		No[a]	5110	18.62
Perception of the provision of health	q57g	Badly/Don't know	11,290	40.77
		Well[a]	16,405	59.23
Perception of the provision of education	q57h	Badly/Don't know	10,246	37
		Well[a]	17,447	63
Perception of the provision of water/sanitation	q57i	Badly/Don't know	14,808	53.49
		Well[a]	12,877	46.51
Perception of the provision of electricity	q57n	Badly/Don't know	17,393	62.8
		Well[a]	10,304	37.2

[a] indicates the reference group in the estimations.

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 very 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 1 if the individual gives the first response, and 0 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 and 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 first place, then this value decreases to 27% as second choice. In contrast, for rights and order, there is a higher proportion of individuals who choose these as the second most important national priority rather than the first one.

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

Table 2
Percentage of remittance-recipients by country.

Country	Percentage
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
Distribution of the perception of national priorities in percentage.

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

To assess the distribution the national priorities we refer to the question q40a for the first most important national priority, and q40b for the second most important national priority.

education is a prerequisite for the endorsement and acceptance of a democratic regime.[3] We also control for the gender of the respondent, a variable that has been of interest in recent years, where some scholars have been interested in the gender gap in support for democracy in sub-Saharan African countries.[4] In addition, we include the age of the respondents, which may inform us whether youth supports democracy as much as the rest of the population[5], employment status, access to media through TV, radio and newspapers, access to food, medicine and water. We also consider two variables measuring respectively whether the respondent has voted in the last elections, and whether the respondent is interested in public affairs.

Before moving to the next section, it is worth discussing the endogeneity issue that may be raised from omitted variables that affect both the fact that a family' member migrates and then the respondent receives remittances, and the fact of whether the respondent supports democracy or not. There may be different economic, social and political characteristics at the individual level but also at the country level that may affect the decision to migrate and the preference of democratic regime.

Regarding the individual characteristics, we control for proxy of poverty considering (a) whether any family member of the respondent or the respondent himself has ever gone without food, water, cash or medicine, and (b) the disposal of assets such as TV or radio. We have also taken into account the respondent's perception on how well or badly the government handles the provision of primary necessities such as education, health, water, sanitation and electricity.

At the country level, we consider the growth rate of the GDP over the 10 years prior to the year of the interview, the GDP per capita at the earliest year of interviews, meaning 2008, the average unemployment rate in the labor market over the period 2000–2008, and the average poverty gap at $1.9 a day over the period 2000–2008. Regarding the institutional climate, we include an index of democracy (DEM), an index of political stability and absence of violence (PS) and an index of political rights (PR). The index of democracy is taken from Polity IV, which takes into account the competitiveness and the openness of executive recruitment, constraints on the executive and competitiveness of political participation. It covers values from 0 to 10, where 0 is allocated for full autocracies while 10 is allocated for full democracies. Political stability

[3] Mattes and Bratton (2001); Bratton and Mattes (2005); Evans and Rose (2007b).
[4] For example, García-Peñalosa and Konte (2014); Konte (2014).
[5] See Resnick and Casale (2014) and Resnick and Casale (2011) for investigation on youth and politics in Africa.

Table 4
Descriptive statistics: macro indicators.

Variable	Number of countries	Mean	Std	Min	Max	Description	Data source
$\ln(GDP_{08})$	20	7.634	0.825	6.235	9.415	Log of GDP per capita in 2008	Penn World Table 8.1
$Growth_{98-08}$	20	2.517	2.107	−4.752	5.379	Growth rate for the period 1998–2008	Compilation based on GDP per capita from Penn World Table 8.1
$Unemployment_{00-08}$	20	11.089	8.778	1	32.411	Average unemployment rate over the period 2000–2008	World development indicators
$Poverty_{00-08}$	19	20.311	9.197	7.005	36.47	Average poverty gap at $1.9 a day over the period 2000–2008	World development indicators
$Democracy_{08}$	20	5.795	2.709	1	10	Index of democracy for the year 2008	Polity IV project
Political $instability_{08}$	20	−0.254	0.824	−1.86	1.19	Political instability and violence index for the year 2008	World governance indicators
Political $rights_{08}$	20	3.169	1.467	1	7	Index of political rights for the year 2008	Freedom house

Note: For the measure of poverty gap, data for Zimbabwe is not available.

Table 5
Correlation between the macro variables.

	$\ln(GDP_{08})$	$Growth_{98-08}$	$Unemployment_{00-08}$	$Poverty_{00-08}$	PS_{08}	DEM_{08}	PR_{08}
$\ln(GDP_{08})$	1						
$Growth_{98-08}$	0.2863	1					
$Unemployment_{00-08}$	0.6056	0.1246	1				
$Poverty_{00-08}$	−0.7486	−0.108	−0.1582	1			
PS_{08}	0.4112	−0.0687	0.4045	−0.279	1		
DEM_{08}	0.4706	−0.2913	0.4972	−0.4541	0.4218	1	
PR_{08}	−0.5237	0.0435	−0.4898	0.5502	−0.5919	−0.843	1

and absence of violence is taken from the Worldwide Governance Perception Indicators. It is a perception of the likelihood of political instability and/or politically-motivated violence, including terrorism in a country. It ranges between −2.5 to 2.5 where a higher number means more stability. Our indicator of political rights is taken from the Freedom house data, and it captures the extent to which freedom in the political process, including the right to vote freely, compete for public office, join political parties and organizations, and elect representatives is secured. The values are ranged between 1 and 7, where 1 reflects absolute freedom while 7 indicates absence of freedom. For these different measures of institutions we have taken the values in 2008.

Table 1 presents some descriptive statistics of the different individual characteristics. Table 4 shows some descriptive statistics for the macroeconomic variables and their sources. Table 5 presents the coefficients of correlation between the macroeconomic variables.

4. Empirical strategy

We have data for 20 countries indexed by j =1,2,...20, and n_j denotes the number of individuals interviewed in country j. As such, the total number of observations is $n = \sum_{j=1}^{J} n_j$. Our variable of interest 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 countries, and as such people who live in the same country share similar contextual characteristics and in turn they may have some similar behaviors. Standard estimation methods ignore such clustering effects, 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 research in recent years due to the increase in the available data that have 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 onto the multilevel mixture of regression model, relaxing the hypothesis that the data are generated by a single equation in favour of multiple equations.

4.1. 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 $\text{Prob}(\text{SD}_{ij} = 1, \omega_{ij})$ as the probability that the individual i living in country j supports democracy given ω_{ij}. This probability can be expressed as follows:

$$\text{Prob}(\text{SD}_{ij} = 1, \omega_{ij}) = \frac{1}{1 + exp(-\omega_{ij})} \tag{1}$$

where,

$$\omega_{ij} = \beta_0 + \beta_1 \text{remit}_{ij} + \beta_2 \text{X}_{ij} + \beta_3 \text{Z}_j + \epsilon_{ij} \tag{2}$$

Our parameter of interest is β_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 X_{ij} contains the socio-economic characteristics of an individual i living in country j, while Z_j includes some countries characteristics. 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:

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

Thus the general model can be written as follows:

$$\omega_{ij} = \beta_{00} + \beta_1 \text{remit}_{ij} + \beta_2 \text{X}_{ij} + \text{Z}_j + u_j + \epsilon_{ij} \tag{4}$$

The term $uj + \epsilon_{ij}$ in Eq. (4) represents the random part of the model, where u_j is the country-specific effect and ϵ_{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 receiving remittances on the degree of support for democracy may depend on the latent class to which an individual belongs. 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 stated in Eq. (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*". Therefore, we propose to apply the multilevel mixture model that allows us to take into account unobserved heterogeneity at both levels, the lowest and the highest.

4.2. Multilevel finite mixture model

The finite mixture model (McLachlan and Peel, 2000; Frühwirth-Schnatter, 2006) has attracted increasing interest over recent years 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 recent influential research (Vermunt, 2003; Asparouhov and Muthen, 2008, 2009), a multilevel finite mixture framework has been proposed with different extensions (parametric and non-parametric) 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 of individuals. We now relax this hypothesis and allow to detect whether the data are generated by a model with different classes/subtypes of individuals such that the impact of remittances on the degree of support for democracy varies with the class. The classes are a priori not observed and are latent.

4.2.1. 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 of a 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 $class_i$ to be the latent class variable for a given individual i, where $class_i$ 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:

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

where π_k is the probability of belonging to the class k, and $f_k(y_i|x; \beta_k, \sigma_k)$ is a conditional density distribution characterized by a set of parameters (β_k, σ_k) and of covariates x. β_k and σ_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:

$$y_i = x_i\beta + \varepsilon, \qquad \varepsilon \sim N(0, \sigma^2) \tag{6}$$

In this case the standard specification in Eq. (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:

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

where ε_1 and ε_2 are independent and identically normally distributed error terms with variances of σ_1^2 and σ_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 heterogeneity that may exist at each of the two different levels of the data.

4.2.2. 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. Denote by $class_{ij}$ the latent class variable at the lowest level, i.e, at the individual level, and by $gclass_j$ the latent class variable at the highest level, meaning the country level in our case. 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:

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

where,

$$f(Y_j|gclass_j = l; X) = \sum_{k=1}^{K}\pi_k(class_{ij} = k|gclass_j = l) * f(y_{ij}|class_{ij} = k; x_{ij}, \Theta) \tag{9}$$

$\pi_l(gclass_j = l)$ is the probability that country j belongs to the latent class l, and $\pi_k(class_{ij} = k|gclass_j = l)$ 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 Eqs. (8) and (9) we obtain the following likelihood information in 10 that we will maximize using the EM approach for the estimations of the set of parameters π_l, π_k, and Θ:

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

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

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

We can see in this equation that the probability, $\pi_k(class_{ij} = k|gclass_j = l)$, that individual i living in country j belongs to a given class 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 classes of individuals sharing similar but unobserved characteristics. For this purpose, we need to investigate whether our data is generated by multiple hidden classes (subtypes) such that the impact of remittances on the support for democracy depends on the class to which a given individual belongs. Hence, using Eq. (10) we will leave the data to

detect the optimal number of classes 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 class k conditional on the cluster l to which its country belongs.

Our second research question is to investigate the extent to which the national priorities perceived by the respondents help to determine the classification of the people into the different identified clusters. For this purpose, we re-estimate our multilevel mixture model expressed in Eq. (10) and include the national priority variables. This consists of endogenizing the parameter $\pi_k(class_{ij} = k|gclass_j = l)$, which becomes now: $\pi_k(class_{ij} = k|gclass_j = l, priority_{ij})$. Our mixture model augmented with the individuals' priorities can then be written as follows:

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

5. Results and interpretation

5.1. Standard estimations

We start by estimating a simple multilevel model under the hypothesis that there exists a unique single subtype of individuals. We assume that individuals are nested within countries, and then allow the error terms to vary across countries. The results are reported in Table 6. We start with the first column where we control for remittances, education, gender, geographical location, age, and the employment status of the respondents. Subsequently, we add additional individual socio-economic characteristics, and some country level characteristics from column [4]. Across the different columns we find that the coefficient on remittance receiver 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 the sub-Saharan African region. This finding suggests that remittances are a curse for the degree of support for democracy, and is in line with the previous literature that has pointed out that remittances are a curse for politics in Mexico, and most importantly that remittances may hinder some aspects of political involvement, such as voting, in the African context (e.g, Dionne et al., 2014 and Ebeke and Yogo, 2013).

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. 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 is in line with the theory of Lipset that emphasizes that education is a prerequisite for the endorsement and acceptance of democratic regimes. This positive effect of education becomes stronger with the 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 related it to the level of development and the institutional environment of the countries in which these women live. Konte and Klasen (2016) have also contributed to this debate, and added the informal institutions that affect women's daily life.

Among the other covariates, we find some evidence that access to the media specially through radio, affects positively the probability of supporting democracy, and people who have ever been in a situation without foods tend to support democracy less than their counterpart. The perception of the leaders' actions in providing health is a significant determinant of support of democracy, where individuals who reply that the provision of health is well handled have a higher probability of supporting democracy than others. Regarding the political participation and involvement of the respondents, we find that those who are interested in public affairs and those who have voted during the last elections are more likely to prefer democratic regimes.

Turning to the estimates on the macroeconomic variables, the growth rate over the ten years prior to the date of the interviews has a positive sign, indicating that growth is accompanied with more support for democracy, but results are not statistically significant. In contrast, a high unemployment rate and an increase in the level of poverty decrease significantly the level of support for democracy. Recall that data on poverty at $1.9 are missing for Zimbabwe, which reduces the number of observations in column [4] where we have controlled for the measure of poverty. Although the sign of the coefficients on the indicators of political instability and democracy indicate that more political stability and more democracy affect positively the degree of support for democracy, the coefficients remain insignificant. Similarly, countries that have a low level of political rights (i.e, a high value for PR), record a lower level of support for democracy.

For sensitivity test we redone the estimations reported in the last column [10] of Table 6, dropping the countries one by one in order to check whether our results are driven by some particular countries that may present specific characteristics that we did not control for. Results are reported in Table 7, and they show robust negative effect of remittances on support for democracy regardless the country which is dropped. For the coefficients on the variables at the country level, we find a change on unemployment rate, which becomes insignificant when Lesotho is dropped. Also, the level of democracy becomes positive and significant when Madagascar is dropped.

In summary, in this section we have provided evidence for a negative effect of remittances on support for democracy in our sample that contains representative surveys from 20 sub-Saharan African countries. The results are robust to different

Table 6
Remittances and support for democracy in africa: a multilevel analysis.

Variable		Categories	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]
Individual level variables	**Ref**											
Remittance Receiver	No	Yes	−0.135[a]	−0.163[a]	−0.176[a]	−0.176[a]	−0.173[a]	−0.176[a]	−0.177[a]	−0.176[a]	−0.177[a]	−0.177[a]
			(0.0374)	(0.0380)	(0.0385)	(0.0385)	(0.0399)	(0.0385)	(0.0385)	(0.0385)	(0.0385)	(0.0385)
Level of Education	No formal	Some primary	0.238[a]	0.202[a]	0.192[a]	0.194[a]	0.190[a]	0.194[a]	0.194[a]	0.193[a]	0.195[a]	0.194[a]
			(0.0468)	(0.0477)	(0.0485)	(0.0485)	(0.0492)	(0.0485)	(0.0485)	(0.0485)	(0.0485)	(0.0485)
		Primary	0.624[a]	0.539[a]	0.530[a]	0.530[a]	0.522[a]	0.531[a]	0.531[a]	0.530[a]	0.532[a]	0.532[a]
			(0.0448)	(0.0467)	(0.0475)	(0.0475)	(0.0484)	(0.0475)	(0.0475)	(0.0475)	(0.0475)	(0.0475)
		Secondary	0.778[a]	0.648[a]	0.635[a]	0.636[a]	0.604[a]	0.637[a]	0.637[a]	0.635[a]	0.638[a]	0.638[a]
			(0.0565)	(0.0598)	(0.0607)	(0.0607)	(0.0625)	(0.0607)	(0.0607)	(0.0607)	(0.0607)	(0.0607)
		Post-secondary	0.981[a]	0.815[a]	0.777[a]	0.778[a]	0.724[a]	0.780[a]	0.779[a]	0.778[a]	0.781[a]	0.780[a]
			(0.0649)	(0.0692)	(0.0702)	(0.0702)	(0.0712)	(0.0702)	(0.0702)	(0.0702)	(0.0702)	(0.0702)
Gender	Male	Female	−0.323[a]	−0.298[a]	−0.263[a]	−0.263[a]	−0.268[a]	−0.263[a]	−0.263[a]	−0.263[a]	−0.263[a]	−0.263[a]
			(0.0302)	(0.0308)	(0.0314)	(0.0314)	(0.0322)	(0.0314)	(0.0314)	(0.0314)	(0.0314)	(0.0314)
Location	Rural	Urban	0.107[a]	0.0583[c]	0.0877[b]	0.0878[b]	0.122[a]	0.0877[b]	0.0874[b]	0.0879[b]	0.0873[b]	0.0874[b]
			(0.0317)	(0.0340)	(0.0346)	(0.0346)	(0.0354)	(0.0346)	(0.0346)	(0.0346)	(0.0346)	(0.0346)
Head of Household	Yes	No	−0.0185	−0.0283	0.00717	0.00626	0.0280	0.00609	0.00612	0.00637	0.00571	0.00601
			(0.0340)	(0.0345)	(0.0351)	(0.0351)	(0.0360)	(0.0351)	(0.0351)	(0.0351)	(0.0351)	(0.0351)
Age	< 26	25 < *age* < 36	0.113[a]	0.115[a]	0.0278	0.0277	0.0308	0.0277	0.0277	0.0277	0.0277	0.0277
			(0.0383)	(0.0389)	(0.0406)	(0.0406)	(0.0417)	(0.0406)	(0.0406)	(0.0406)	(0.0406)	(0.0406)
		> 35	0.304[a]	0.310[a]	0.175[a]	0.175[a]	0.184[a]	0.175[a]	0.175[a]	0.175[a]	0.174[a]	0.175[a]
			(0.0402)	(0.0407)	(0.0430)	(0.0430)	(0.0442)	(0.0430)	(0.0430)	(0.0430)	(0.0430)	(0.0430)
Employment Status	Employed	Inactive	0.0553	0.0775[b]	0.105[a]	0.107[a]	0.106[a]	0.107[a]	0.107[a]	0.107[a]	0.107[a]	0.107[a]
			(0.0384)	(0.0391)	(0.0397)	(0.0397)	(0.0407)	(0.0397)	(0.0397)	(0.0397)	(0.0397)	(0.0397)
		Unemployed	−0.000312	0.0369	0.0419	0.0435	0.0456	0.0434	0.0436	0.0435	0.0436	0.0435
			(0.0367)	(0.0373)	(0.0378)	(0.0378)	(0.0387)	(0.0378)	(0.0378)	(0.0378)	(0.0378)	(0.0378)
Access News Through Radio	No	Yes		0.260[a]	0.183[a]	0.182[a]	0.175[a]	0.182[a]	0.182[a]	0.182[a]	0.182[a]	0.182[a]
				(0.0433)	(0.0444)	(0.0444)	(0.0466)	(0.0444)	(0.0444)	(0.0444)	(0.0444)	(0.0444)
Access News through TV	No	Yes		0.0468	0.0534	0.0516	0.0557	0.0514	0.0510	0.0517	0.0508	0.0510
				(0.0388)	(0.0394)	(0.0394)	(0.0403)	(0.0394)	(0.0394)	(0.0394)	(0.0394)	(0.0394)
Access News Through papers	Yes	No		0.0836[b]	0.0414	0.0414	0.0223	0.0416	0.0418	0.0413	0.0421	0.0418
				(0.0389)	(0.0395)	(0.0395)	(0.0406)	(0.0395)	(0.0395)	(0.0395)	(0.0395)	(0.0395)
Ever Gone without Food	No	Yes		−0.174[a]	−0.187[a]	−0.187[a]	−0.196[a]	−0.186[a]	−0.186[a]	−0.187[a]	−0.186[a]	−0.186[a]
				(0.0346)	(0.0351)	(0.0351)	(0.0356)	(0.0351)	(0.0351)	(0.0351)	(0.0351)	(0.0351)
Ever Gone without Cash		Yes		−0.0401	−0.0348	−0.0343	−0.0423	−0.0347	−0.0340	−0.0343	−0.0342	−0.0344
				(0.0413)	(0.0419)	(0.0419)	(0.0424)	(0.0419)	(0.0419)	(0.0419)	(0.0419)	(0.0419)
Ever Gone without Water	No	Yes		0.0367	0.0368	0.0364	0.0470	0.0364	0.0364	0.0364	0.0363	0.0365
				(0.0328)	(0.0333)	(0.0333)	(0.0345)	(0.0333)	(0.0333)	(0.0333)	(0.0333)	(0.0333)
Ever Gone without Medicine	No	Yes		−0.0583	−0.0497	−0.0499	−0.0566	−0.0497	−0.0499	−0.0500	−0.0498	−0.0497
				(0.0356)	(0.0361)	(0.0361)	(0.0367)	(0.0361)	(0.0361)	(0.0361)	(0.0361)	(0.0361)
Perception of health provision	Well	Bad		−0.0908[b]	−0.0674[c]	−0.0674[c]	−0.0558	−0.0673[c]	−0.0675[c]	−0.0674[c]	−0.0674[c]	−0.0674[c]
				(0.0359)	(0.0365)	(0.0365)	(0.0374)	(0.0365)	(0.0365)	(0.0365)	(0.0365)	(0.0365)
Perception of education provision	Well	Bad		0.00177	0.0151	0.0149	0.0162	0.0149	0.0150	0.0148	0.0149	0.0149
				(0.0372)	(0.0378)	(0.0378)	(0.0389)	(0.0378)	(0.0378)	(0.0378)	(0.0378)	(0.0378)
Perception of water and sanitation provision	Well	Bad		−0.0348	−0.0264	−0.0263	−0.0231	−0.0262	−0.0264	−0.0263	−0.0263	−0.0263
				(0.0333)	(0.0338)	(0.0338)	(0.0346)	(0.0338)	(0.0338)	(0.0338)	(0.0338)	(0.0338)
Perception of electricity provision	Well	Bad		0.0188	0.0225	0.0220	0.0115	0.0222	0.0219	0.0220	0.0220	0.0221
				(0.0336)	(0.0340)	(0.0340)	(0.0350)	(0.0340)	(0.0340)	(0.0340)	(0.0340)	(0.0340)
Interested in Public affairs	No	A little bit			0.313[a]	0.312[a]	0.309[a]	0.312[a]	0.313[a]	0.312[a]	0.313[a]	0.313[a]
					(0.0386)	(0.0386)	(0.0397)	(0.0386)	(0.0386)	(0.0386)	(0.0386)	(0.0386)
		Very			0.520[a]	0.520[a]	0.517[a]	0.520[a]	0.520[a]	0.520[a]	0.520[a]	0.520[a]
					(0.0427)	(0.0427)	(0.0437)	(0.0427)	(0.0427)	(0.0427)	(0.0427)	(0.0427)
Voted during last election	No	Yes			0.321[a]	0.320[a]	0.310[a]	0.320[a]	0.320[a]	0.320[a]	0.320[a]	0.320[a]
					(0.0340)	(0.0340)	(0.0350)	(0.0340)	(0.0340)	(0.0340)	(0.0340)	(0.0340)
Country level variables												
		Ln(GDP)				0.238	−0.304	0.203	0.220	0.266	0.209	0.196
						(0.164)	(0.288)	(0.168)	(0.163)	(0.181)	(0.162)	(0.166)
		Growth				0.0484	0.0779	0.0378	0.0433	0.0634	0.0189	0.0359
						(0.0547)	(0.0798)	(0.0555)	(0.0542)	(0.0684)	(0.0595)	(0.0550)
		Unemployment				−0.0335[b]	−0.0103	−0.0360[b]	−0.0375[b]	−0.0339[b]	−0.0377[b]	−0.0387[b]
						(0.0156)	(0.0175)	(0.0157)	(0.0161)	(0.0156)	(0.0156)	(0.0161)
		Poverty					−0.0464[b]					
							(0.0202)					
		PS						0.131				0.104
								(0.164)				(0.167)
		DEM							0.0404			0.0327
									(0.0490)			(0.0501)
		PR									−0.103	
											(0.0930)	
		Constant	0.414[a]	0.398[a]	−0.0426	−1.585	3.140	−1.246	−1.636	−1.990	−0.938	−1.358
			(0.142)	(0.151)	(0.153)	(1.182)	(2.342)	(1.239)	(1.165)	(1.623)	(1.289)	(1.238)
		Observations	26,736	26,263	25,941	25,941	24,788	25,941	25,941	25,941	25,941	25,941
		Number of countries	20	20	20	20	19	20	20	20	20	20

Note: The table reports coefficients from the multilevel logit estimation, the dependent variable is *support for democracy*. Standard errors are in parenthesis.
[a] Denotes Significant at 1%.
[b] Significant at 5%.
[c] Significant at 10%.

Table 7
Remittances and Support for democracy dropping countries.

Country dropped	Remittance receiver	ln(GDP)	Growth	Unemployment	DEM	PS	Constant	Observations
Benin	−0.178[a]	0.192	0.0398	−0.0355[b]	0.028	0.0795	−1.349	24,793
Botswana	−0.175[a]	0.0749	0.0279	−0.0382[b]	0.0357	0.0727	−0.496	24,772
Burkina Faso	−0.206[a]	0.183	0.0381	−0.0414[b]	0.0136	0.153	−1.072	24,884
Cape Verde	−0.150[a]	0.205	0.0394	−0.0393[b]	0.0341	0.101	−1.439	24,769
Ghana	−0.179[a]	0.192	0.0352	−0.0387[b]	0.0323	0.108	−1.386	24,822
Kenya	−0.166[a]	0.191	0.0392	−0.0389[b]	0.0177	0.181	−1.24	24,934
Lesotho	−0.193[a]	0.156	0.0309	−0.0267	0.0347	0.0655	−1.178	24,801
Liberia	−0.180[a]	0.247	0.0389	−0.0388[b]	0.0185	0.144	−1.68	24,780
Madagascar	−0.180[a]	0.152	0.0117	−0.0475[a]	0.0731[b]	0.0807	−0.994	24,668
Malawi	−0.169[a]	0.23	0.0435	−0.0386[b]	0.0301	0.0821	−1.653	24,870
Mali	−0.195[a]	0.211	0.0404	−0.0390[b]	0.0306	0.0896	−1.463	24,742
Mozambique	−0.180[a]	0.205	0.0338	−0.0395[b]	0.0342	0.0997	−1.461	24,897
Namibia	−0.177[a]	0.213	0.0309	−0.0363[b]	0.0215	0.163	−1.422	24,761
Nigeria	−0.159[a]	0.208	0.0498	−0.0397[b]	0.0306	0.0579	−1.406	23,819
Senegal	−0.217[a]	0.201	0.0353	−0.0382[b]	0.0327	0.0993	−1.382	24,903
South Africa	−0.141[a]	0.242	0.0361	−0.0366[b]	0.0403	0.0803	−1.779	23,713
Tanzania	−0.180[a]	0.193	0.0459	−0.0399[b]	0.0194	0.115	−1.249	24,791
Uganda	−0.166[a]	0.177	0.0134	−0.0368[b]	0.059	0.128	−1.362	23,579
Zambia	−0.171[a]	0.25	0.0436	−0.0415[a]	0.0302	0.0508	−1.841	24,793
Zimbabwe	−0.171[a]	0.145	0.0727	−0.0389[b]	0.0489	0.111	−1.165	24,788

Note: The coefficients reported on each line are those obtained by dropping the country on that line.
[a] Significant at 1%.
[b] Significant at 5%.
[b] Significant at 10%.

specifications and to the inclusion of different individual and country 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 introduces these two types of heterogeneity simultaneously in the model of estimations in the form of latent classes. Our benchmark model for the rest of the paper is the one reported in column [10] of Table 6.

5.2. Multilevel mixture of regression estimations

5.2.1. Hypothesis 1: the remittance effect varies across individual latent classes

In this section, we investigate whether there is some unobserved heterogeneity that exists at the individual level, without ignoring heterogeneity at the country level, and we model this heterogeneity in terms of latent classes. We try to find out whether the respondents fall into different classes in such a way that the effect of remittances on the degree of endorsement and support for democracy depends on the class that we consider. We first estimate the model in Eq. (11) using different values for the country latent clusters, *gclass*, and for the individual latent classes, *class*. For each combination of (*gclass, class*), we estimate Eq. (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 8 shows the values of two statistical information criterion: the BIC and the CAIC. The optimal model is the one that has the lowest values on these two quantities. We find that our best model is the one with two individual latent classes and four different latent groups of countries. We also observe that the models where we consider simultaneously the heterogeneity in both, the lowest and the highest levels perform better than the models where we consider heterogeneity only at the individual level. This refers to all the estimations where the number of clusters or groups at the country level, gclass, is fixed to 1.

We next present the estimation results of our preferred model in Table 9, where we present the estimated coefficients by class. In terms of the distributions of the individuals across the two identified classes, we have roughly more than 78% of the respondents who have a higher probability of being sorted in the first class against 21% for the second class. Focusing on our parameter of interest, receiving remittances or not, we find that the coefficients across the two classes are quite different. In the first class the coefficient is negative and significant at the conventional level of 1%. This indicates that in this class, remittance recipients are less likely to support democracy than are non-remittance recipients. In contrast, in the second class the coefficient is not significant, indicating that remittances do not affect the probability of supporting democracy for individuals who belong to this class. Thus, in the second class, 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.

For robustness checking, Table 10 shows the estimations of our second best model where the number of groups at the country level is fixed to 3 and the number of classes at the individual level is equal to 2. In addition, Table 11 shows the estimations where we have 2 classes at the individual level but do not allow countries to belong to different groups, which corresponds to the model with $gclass = 1$ and $class = 2$. In both of these tables, results are in line with our previous findings,

Table 8
Goodness of fit.

gclass	Class	BIC	CAIC
1	1	30276.31	30308.31
1	2	29646.26	29711.26
1	3	29729.32	29827.32
1	4	29885.29	30016.29
1	5	29886.03	30050.03
1	6	30119.79	30316.79
2	2	29419.02	29486.02
2	3	29520.07	29621.07
2	4	29667.27	29802.27
2	5	29834.9	30003.9
2	6	29924.02	30127.02
3	2	29342.21	29413.21
3	3	29545.62	29649.62
3	4	29656.53	29795.53
3	5	29765.54	29939.54
3	6	30061.23	30270.23
4	**2**	**29340.37**	**29411.37**
4	3	29528.89	29635.89
4	4	29680.09	29823.09
4	5	29825.73	3009.73
4	6	30016.34	30231.34
5	2	29351.51	29424.51
5	3	29765.54	29939.54
5	4	29852.23	30031.23
5	5	29812.02	29996.02
5	6	30061.70	30282.70
6	2	29377.99	29452.99
6	3	29566.53	29679.53
6	4	29674.63	29825.63
6	5	29950.99	30139.99
6	6	30115.21	30342.21

Note: This table reports the goodness of fit for the different multilevel mixture models estimated, using different values for the number of clusters. *gclass* refers to the number of groups at the country level, while *class* refers to the number of classes at the individual level. Selected model in bold.

where in the first class, being a remittance receiver reduces the probability of supporting democracy, while in the second class there is not difference between a remittance recipient and a non-recipient in terms of supporting democracy.

Turning now to the additional explanatory variables included in our model, we find some similarities across the two classes. For instance, the level of education has a positive effect on the degree of support for democracy for the two classes. 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. We also find that being interested in public affairs increases significant the probability of supporting democracy for the two identified classes. In contrast, for the other variables we observe different effects across the two classes. For examples, being unemployed increases the probability of supporting democracy in the first class, but reduces it in the second one. Similarly, access to media through radio, and having been in a situation without food are significant determinants of the probability of supporting democracy in the first class, while they remain insignificant in the second one. Looking at the coefficients on the variables at the country level, the coefficients on the GDP per capita and the indicator of political stability are significant and positive in the first class, but they remain insignificant in the second class.

Table 12 shows the classification at the highest level, i.e., at the country level. Recall that our best model contains 4 country clusters. In this table, we can observe that our classification is probabilistic. Indeed, for all the countries, the probability of being sorted into a group is either equal to 1 or close 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 first group we have South-Africa, which shares the same group with Benin, Mali and Nigeria. Madagascar is the only country in the last group. Table 13 shows the proportion of respondents within countries, who have a higher probability of being in the remittance curse class than in the second class, where remittances have a neutral effect on the degree of support for democracy. Nearly half of the countries have all of their respondents sorted into the first class.[6] Madagascar is the only country for which all the respondents are fully classified into the second class.

[6] These countries are Benin, Ghana, Kenya, Lesotho, Liberia, Mali, Mozambique, Namibia, Nigeria, South Africa and Uganda

Table 9
Remittances and support for democracy in africa: a multilevel mixture analysis.

Variable		Categories	Class 1 ($\pi_1 = 78.7\%$)	Class 2 ($\pi_2 = 21.3\%$)
Individual level variables	**Ref**			
Remittance receiver	No	Yes	−0.2461[a]	0.0488
			(0.0477)	(0.1745)
Level of education	No formal	Some primary	0.1329[b]	1.1065[a]
			(0.0628)	(0.2147)
		Primary	0.3606[a]	1.9883[a]
			(0.0604)	(0.2381)
		Secondary	0.4019[a]	2.7851[a]
			(0.0752)	(0.3215)
		Post-secondary	0.5514[a]	3.1257[a]
			(0.0853)	(0.3399)
Gender	Male	Female	−0.2094[a]	−0.5521[a]
			(0.0387)	(0.1199)
Location	Rural	Urban	0.066	0.2078
			(0.0422)	(0.1301)
Head of household	Yes	No	−0.0556	0.1831
			(0.0439)	(0.1298)
Age	< 26	25 < *age* < 36	0.0067	0.1112[a]
			(0.0501)	(0.1634)
		> 35	0.0956[c]	0.5404[c]
			(0.0541)	(0.1628)
Employment status	Employed	Inactive	0.1578[a]	−0.1137
			(0.0491)	(0.1306)
		Unemployed	0.1004[a]	−0.3431[b]
			(0.0464)	(0.1416)
Access news through radio	No	Yes	0.1823[a]	0.2781
			(0.0577)	(0.1713)
Access news through TV	No	Yes	0.0038	0.0842
			(0.0482)	(0.1332)
Access news through papers	Yes	No	0.0178	0.2234
			(0.0489)	(0.1374)
Ever gone without food	No	Yes	−0.2487[a]	0.0375
			(0.0439)	(0.1267)
Ever gone without water	No	Yes	0.0474	−0.1385
			(0.0417)	(0.1187)
Ever gone without medicine	No	Yes	−0.0746[c]	0.0634[a]
			(0.0434)	(0.1242)
Ever gone without cash			−0.0265	0.0985
			(0.0443)	(0.1305)
Perception of health provision	Well	Bad	−0.0168	−0.3183[b]
			(0.045)	(0.1363)
Perception of education provision	Well	Bad	0.0244	−0.1083
			(0.0466)	(0.1425)
Perception of water and sanitation provision	Well	Bad	−0.0311	0.0668
			(0.0416)	(0.12)
Perception of electricity provision	Well	Bad	0.0317	−0.0014
			(0.0416)	(0.1269)
Interested in public affairs	No	A little bit	0.3093[a]	0.5186[a]
			(0.0478)	(0.1558)
		Very	0.4709[a]	1.0143[a]
			(0.052)	(0.1772)
Voted during last election	No	Yes	0.4332[a]	−0.1589
			(0.043)	(0.1282)
Country level variables				
		Ln(GDP)	0.0932[a]	−0.2967
			(0.0307)	(0.1998)
		Growth	−0.0054	0.0504
			(0.023)	(0.0726)
		Unemployment	−0.0537[a]	0.5431[a]
			(0.0046)	(0.0592)
		PS	0.1304[a]	−0.0434
			(0.0326)	(0.4127)
		DEM	−0.0045	−0.0681
			(0.0146)	(0.0447)
		Constant	0.1565	−2.811[c]
			(0.2424)	(1.5581)
		Total observations	25,893	

Note: This table reports the estimation results of the selected multilevel mixture model from Table 8 where the number of latent groups at the country level, **gclass**, is 4, and the number of latent classes at the individual level, **class**, is equal to 2.
Standard errors are in brackets.
[a] Significant at 1%.
[b] Significant at 5%.
[c] Significant at 10%.

Table 10
Remittances and support for democracy in Africa: a multilevel mixture analysis, second best model: gclass = 3, class = 2.

Variable		Categories	Class 1 (π_1 = 82.76%)	Class 2 (π_2 = 17.24%)
Individual level variables	**Ref**			
Remittance receiver	No	Yes	−0.2684[a]	0.2862
			(0.0477)	(0.2529)
Level of education	No formal	Some primary	0.2137[a]	1.4907[a]
			(0.0599)	(0.4702)
		Primary	0.5033[a]	2.4852[a]
			(0.0581)	(0.5154)
		Secondary	0.6043[a]	3.3106[a]
			(0.0722)	(0.5989)
		Post-secondary	0.7263[a]	3.7691[a]
			(0.0834)	(0.6258)
Gender	Male	Female	−0.2617[a]	−0.5269[a]
			(0.0394)	(0.1634)
Location	Rural	Urban	0.0726[c]	0.4735[a]
			(0.0423)	(0.1669)
Head of household	Yes	No	−0.0562	0.4036[b]
			(0.0436)	(0.1733)
Employment status	Employed	Inactive	0.1543[a]	−0.3062[c]
			(0.0496)	(0.1733)
		Unemployed	0.1228[a]	−0.4215[b]
			(0.0472)	(0.1807)
Age	< 26	25 < *age* < 36	0.0099	−0.0892
			(0.0501)	(0.2109)
		> 35	0.1257[a]	0.4026[c]
			(0.0537)	(0.2097)
Access news through radio	No	Yes	0.1942[a]	0.6129[b]
			(0.0552)	(0.2768)
Access news through TV	No	Yes	0.0035	0.1157
			(0.0487)	(0.1733)
Access news through papers	Yes	No	0.0631	0.065
			(0.049)	(0.1731)
Ever gone without food	No	Yes	−0.1965[a]	−0.1836
			(0.0431)	(0.1617)
Ever gone without water	No	Yes	0.0839[b]	−0.1248
			(0.0421)	(0.1572)
Ever gone without medicine	No	Yes	−0.0635	−0.0714
			(0.0445)	(0.1546)
Ever gone without cash			−0.0002	−0.166
			(0.0452)	(0.183)
Perception of health provision	Well	Bad	−0.0624	−0.3007[c]
			(0.0454)	(0.1813)
Perception of education provision	Well	Bad	0.0367	−0.2633
			(0.0467)	(0.1988)
Perception of electricity provision	Well	Bad	0.0283	0.0532
			(0.0421)	(0.168)
Interested in public affairs	No	A little bit	0.3158[a]	0.7741[a]
			(0.0469)	(0.2489)
		Very	0.5469[a]	1.26[a]
			(0.0535)	(0.2712)
Voted during last election	No	Yes	0.4157[a]	−0.215
			(0.0421)	(0.1652)
Country level variables				
		Ln(GDP)	−0.161[a]	16.0157[a]
			(0.0463)	(3.1584)
		Growth	0.0849[a]	0.6269[a]
			(0.0102)	(0.1359)
		Unemployment	−0.0309[a]	−0.3383[a]
			(0.0044)	(0.056)
		PS	0.4347[a]	−14.8996[a]
			(0.0388)	(2.8553)
		DEM	−0.0149	−0.0137
			(0.0111)	(0.0825)
		Constant	1.6927[a]	−122.2557[a]
			(0.3571)	(23.4326)
		Total observations	25893	

Note: This table reports the estimation results of our second best multilevel mixture model where the number of groups at the country level, **gclass**, is equal to 3, while the number of latent classes at the individual level, **class**, is fixed to 2.
Standard errors are in brackets.
[a] Significant at 1%.
[b] Significant at 5%.
[c] Significant at 10%.

Table 11
Remittances and support for democracy in Africa: a multilevel mixture analysis, glass=1, class=2.

Variable		Categories	Class 1 (π_1 = 43.8%)	Class 2 (π_2 = 56.2%)
Individual level variables	**Ref**			
Remittance receiver	No	Yes	−0.444[a]	0.2087
			(0.0816)	(0.3467)
Level of education	No formal	Some primary	0.7001[a]	0.1121
			(0.1182)	(0.2797)
		Primary	1.0475[a]	1.0722[a]
			(0.114)	(0.3526)
		Secondary	1.2627[a]	1.6369[c]
			(0.1453)	(0.9951)
		Post-secondary	1.4251[a]	2.7958[a]
			(0.1486)	(0.9971)
Gender	Male	Female	−0.4488[a]	−0.2545
			(0.0675)	(0.2236)
Location	Rural	Urban	0.1273[c]	0.3011
			(0.069)	(0.2753)
Head of household	Yes	No	−0.1363[c]	0.5049[b]
			(0.0716)	(0.2321)
Age	< 26	25 < *age* < 36	0.1827[b]	−0.5397[c]
			(0.0907)	(0.2943)
		> 35	0.3416[a]	0.1367
			(0.0942)	(0.3095)
Employment Status	Employed	Inactive	0.3296[a]	−0.3524
			(0.0817)	(0.2991)
		Unemployed	0.1129	−0.1706
			(0.0761)	(0.2771)
Access news through radio	No	YES	0.464[a]	−0.1963
			(0.1234)	(0.2575)
Access news through TV	No	YES	−0.1895[b]	0.5368[b]
			(0.0805)	(0.2595)
Access news through papers	Yes	No	0.1939[b]	−0.1411
			(0.0809)	(0.2724)
Ever gone without food	No	YES	−0.2584[a]	−0.5976[a]
			(0.0701)	(0.2306)
Ever gone without water	No	YES	0.0405	0.0126
			(0.0689)	(0.2056)
Ever gone without medicine	No	YES	0.018	−0.3498
			(0.2299)	(0.0725)
Ever gone without cash			0.1675[b]	−0.3278
			(0.0736)	(0.2732)
Perception of health provision	Well	Bad	−0.06	−0.721[a]
			(0.0753)	(0.2627)
Perception of education provision	Well	Bad	−0.0059	0.0452
			(0.0764)	(0.2495)
Perception of water and sanitation provision	Well	Bad	−0.0454	−0.2307
			(0.069)	(0.2209)
Perception of electricity provision	Well	Bad	0.039	0.0425
			(0.2444)	(0.0687)
Interested in public affairs	No	A little bit	0.654[a]	0.8203[b]
			(0.1128)	(0.3471)
		Very	1.0478[a]	0.9259[a]
			(0.1221)	(0.2814)
Voted during last election	No	Yes	0.594[a]	0.0465
			(0.0823)	(0.2271)
Country level variables				
		Ln(GDP)	0.3068[a]	8.1039[a]
			(0.0737)	(1.3251)
		Growth	0.0056	21.8719[a]
			(0.0202)	(3.0334)
		Unemployment	−0.0768[a]	−0.6859[a]
			(0.008)	(0.1049)
		PS	0.0234	−9.0433[a]
			(0.0502)	(1.5393)
		DEM	0.1188[a]	−18.5689[a]
			(0.0157)	(2.5301)
		Constant	−4.9949[a]	52.5231[a]
			(0.688)	(8.1007)
		Total observations	25893	

Note: This table reports the estimation results of multilevel mixture model where the number of groups at the country level, **gclass**, is equal to 1, while the number of latent classes at the individual level, **class**, is fixed to 2. Standard errors are in brackets.

[a] Significant at 1%.
[b] Significant at 5%.
[c] Significant at 10%.

Table 12
Classification of countries.

gclass 1	gclass 2	gclass 3	gclass 4
Benin (1)	Burkina Faso (1)	Botswana (1)	Madagascar (1)
Ghana (1)	Kenya (0.98)	Cape Verde (0.88)	
Lesotho (1)	Malawi (0.99)	Senegal (0.99)	
Liberia (1)	Tanzania (1)		
Mali (1)	Zambia (0.99)		
Mozambique (1)	Zimbabwe (1)		
Namibia (1)			
Nigeria (1)			
South Africa (1)			
Uganda (1)			

Note: This table reports the classification of the countries into the different 4 country clusters identified in our best model. In parenthesis are the probability of being in the specified cluster.

Table 13
Classification of respondents.

Country	Total obs	Percentage in Class 1
Benin	1107	100
Botswana	1129	14.17
Burkina Faso	1052	60.36
Cape Verde	1160	22.24
Ghana	1100	100
Kenya	994	100
Lesotho	1120	100
Liberia	1156	100
Madagascar	1238	0
Malawi	1060	96.42
Mali	1158	100
Mozambique	1036	100
Namibia	1169	100
Nigeria	2064	100
Senegal	1024	24.61
South Africa	2152	100
Tanzania	1133	74.67
Uganda	2303	100
Zambia	1129	99.2
Zimbabwe	1142	83.19

Note: This table reports by country, the percentage of respondents that have a higher probability of belonging to the remittance curse class using our best model with 2 individual classes and 4 clusters at the country level.

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 class or subtype of individuals that we consider. Our data are better generated by a model with two different classes of individuals, 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 these two identified classes.

5.2.2. Hypothesis 2: the perception of the national priorities determines the classification of the individuals into the classes

To investigate how important is the role played by the perception of the national priority in determining the link between remittances and the degree of support for democracy, we estimate now the augmented model in Eq. (12), where we have added the variables *priority*, as concomitant variables, to our baseline model. Table 14 shows the estimated coefficients of this extended model. All the variables that appear in Table 9 are also controlled for, but those which are no longer significant are not reported. The coefficients on remittances confirm our previous findings where remittance receivers are less likely to support democracy in the first class, while receiving remittances does not have a significant impact on the support for democracy in the second class. Regarding the other explanatory variables, we can stress that for a number of the individual characteristics controlled for, results are similar to the ones reported in the previous Table 9, where we did not include the national priority variables.

However, looking at the country level variables, we find that in the first class, all of the variables become now significant. We can note for instance that more development, meaning high income per capita and high growth rate, is associated with

Table 14
Remittances, Support for democracy and first national priority in Africa.

Variable	Categories		Class 1 (π_1 = 79.58%)	Class 2 (π_2 = 20.42%)
Individual level variables	**Ref**			
Remittance receiver	No	Yes	−0.2411[a]	−0.045
			(0.0588)	(0.1205)
Level of education	No formal	Some primary	0.2932[a]	0.4602[a]
			(0.0655)	(0.1735)
		Primary	0.6003[a]	1.0524[a]
			(0.0668)	(0.1793)
		Secondary	0.7185[a]	1.5976[a]
			(0.0914)	(0.2254)
		Post-secondary	0.9175[a]	1.9003[a]
			(0.1139)	(0.2679)
Gender	Male	Female	−0.3388[a]	−0.3349[a]
			(0.0508)	(0.0978)
Location	Rural	Urban	0.0742	0.3224[a]
			(0.0542)	(0.1135)
Employment status	Employed	Inactive	0.1748[a]	−0.1249
			(0.0613)	(0.1237)
		Unemployed	0.1054[c]	−0.1096
			(0.0597)	(0.1202)
Access news through radio	No	Yes	0.2109[a]	0.0679
			(0.0613)	(0.1314)
Access news through TV	No	Yes	−0.0153	0.2517[b]
			(0.057)	(0.119)
Access news through papers	Yes	No	0.1002[c]	0.0045
			(0.061)	(0.1175)
Ever gone without food	No	Yes	−0.183[a]	−0.4314[a]
			(0.0528)	(0.1071)
Perception of health provision	Well	Bad	−0.022	−0.3614[a]
			(0.0564)	(0.1081)
Perception of water and sanitation provision	Well	Bad	0.0293	−0.2059[b]
			(0.0519)	(0.1001)
Interested in public affairs	No	A little bit	0.4216[a]	0.0447
			(0.0529)	(0.1014)
		Very	0.3387[a]	0.5963[a]
			(0.0564)	(0.1334)
Voted during last election	No	Yes	0.5945[a]	0.8207[a]
			(0.0671)	(0.1333)
Country level variables				
		Ln(GDP)	0.2771[a]	−2.3018[a]
			(0.054)	(0.3527)
		Growth	0.0856[a]	−0.0519
			(0.0123)	(0.2429)
		Unemployment	−0.0283[a]	0.042[a]
			(0.0068)	(0.0109)
		PS	0.1027[b]	−0.0391
			(0.0516)	(0.9073)
		DEM	0.0271[c]	1.165[a]
			(0.0145)	(0.181)
		Constant		
			−1.8288[a]	6.1235[a]
			(0.3973)	(2.2029)
Concomitant variables				
First most important national priority				
	Economic1	Rights1	-	0.6226[a]
			-	(0.117)
		Order1	-	0.1709
			-	(0.0884)
	Total observations	25661		

Note: This table reports the estimation results of the multilevel mixture model, including the first most important national priority as concomitant variables into our selected model where glass = 4 and class = 2.
Standard errors are in brackets.
[a] Significant at 1%.
[b] Significant at 5%.
[c] Significant at 10%.

Table 15
Remittances, support for democracy and second most national priority in Africa.

Variables	Categories		Class 1 ($\pi_1 = 72.25\%$)	Class 2 ($\pi_2 = 27.75\%$)
Individual level variables	**Ref**			
Remittance receiver	No	Yes	−0.3568[a]	0.0537
			(0.0644)	(0.112)
Level of education	No formal	Some primary	0.1645[c]	0.5471[a]
			(0.0851)	(0.1533)
		Primary	0.4577[a]	1.1299[a]
			(0.0825)	(0.1543)
		Secondary	0.4393[a]	1.731[a]
			(0.0986)	(0.2044)
		Post-secondary	0.5651[a]	2.2934[a]
			(0.1103)	(0.248)
Gender	Male	Female	−0.2692[a]	−0.3761[a]
			(0.0501)	(0.0898)
Location	Rural	Urban	0.0791	0.1686
			(0.0555)	(0.104)
Employment status	Employed	Inactive	0.2316[a]	−0.1096
			(0.0639)	(0.1141)
		Unemployed	0.1929[a]	−0.1875[c]
			(0.0611)	(0.1084)
Access news through radio	No	Yes	0.2264[a]	0.0885
			(0.0734)	(0.1249)
Access news through TV	No	Yes	−0.0086	0.1491
			(0.0658)	(0.1112)
Access news through papers	Yes	No	0.0545	0.1103
			(0.0632)	(0.1076)
Ever gone without food	No	Yes	−0.1847[a]	−0.353[a]
			(0.056)	(0.0993)
Perception of education provision	Well	Bad	0.0617	−0.1371
			(0.0611)	(0.1135)
Perception of water and sanitation provision	Well	Bad	0.0212	−0.1989[b]
			(0.0551)	(0.0937)
Interested in public affairs	No	A little bit	0.3293[a]	0.5551[a]
			(0.0603)	(0.124)
		Very	0.6068[a]	0.759[a]
			(0.0707)	(0.1261)
Voted during last election	No	Yes	0.482[a]	0.0476
			(0.0569)	(0.0964)
Country level variables				
		Ln(GDP)	−0.0797[a]	−0.0327[a]
			(0.0091)	(0.0077)
		Growth	0.012	2.0638[a]
			(0.0544)	(0.2732)
		Unemployment	−0.0172	0.4293[a]
			(0.0249)	(0.0762)
		PS	0.7788[a]	−3.1031[a]
			(0.0808)	(0.4245)
		DEM	0.0215	0.1727[a]
			(0.0227)	(0.0434)
		Constant	1.3021[a]	−19.2995[a]
			(0.4528)	(2.2153)
Concomitant variables				
Second most important national priority				
	Economic2	Rights2	–	−0.1584[c]
			—	(0.0882)
		Order2		0.0384
				(0.1004)
Observations			25,367	

Note: This table reports the estimation results of the multilevel mixture model, including the second most important national priority as concomitant variables.
Standard errors are in brackets.
[a] Significant at 1%.
[b] Significant at 5%.
[c] Significant at 10%.

more support for democracy. In addition, the degree of support for democracy increases with the level of political stability and with the level of democracy itself. In contrast, in the second group, results indicate a decline in the degree of support for democracy when the level of income per capita increases and the unemployment rate decreases. However, the effect of the current level of democracy on the degree of support for democracy is stronger in the second class than in the first one.

The bottom of Table 14 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 the identified classes. 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 class where remittances do not hurt the support for democracy. A multinomial logit model is estimated where the reference group is the first class. We first control for *order*1 and *rights*1 as determinants of the probability of being in the second class. Our results show that the coefficient on *order*1 is positive but not significant, while the one on *rights*1 it is positive and statistically significant. This finding indicates that choosing rights and freedom as the main national priority increases the probability of being in the non-remittance-curse class.

We have further verified additional checking for the validation of our hypothesis. The estimation results are shown in Table 15. We now replace *order*1, *rights*1 and *economic*1 by *order*2, *rights*2 and *economic*2. These new national priority variables are coded using 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 *rights*2 and *order*2 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 *rights*2 and *order*2, keeping *economic*2 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-curse class. The coefficient on *order*2 remains insignificant, even though the sign is negative.

In summary, the different specifications presented in Table 14 and in Table 15 shows that the perception of individual national priorities is an important determinant for the classification of the respondents into the two detected classes. Indeed, when focusing on the most important national priority, we find that choosing the rights and individual freedoms as the most important national priorities increases the probability of avoiding the remittance-curse class. However, when focusing on the second most important national priority, we find that people putting rights and individual freedoms the second place are more likely to be classified into the remittance-curse class.

6. Concluding remarks

Many nations across the sub-Saharan African region have received a considerable amount of international inflows, including international official aid and foreign direct investment. 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 non-existent 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 non-recipients. We argue that the effect of remittances on the support for democracy varies across groups (or classes) of individuals sharing similar but unobserved background characteristics. Our approach consists of determining endogenously whether our data is better generated by multiple hidden classes of similar individuals in such a way that the effect of remittances on the degree of support for democracy depends on the class to which the person receiving the remittances belongs. This provides more flexibility and a better fit of the data. We follow up and investigate the extent to which the perception of the main national priority by the respondents may help to explain the link between receiving remittances and the degree of support for democratic regimes over their alternatives.

Using the Afrobarometer surveys we find that our data are better generated by an econometric model of two different latent classes of individuals. In the first one, remittance recipients are less likely than are non-recipients to support democracy, while in the second class, 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 class 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 non-remittance curse class than are 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. Therefore, if the leaders perceive remittances as potential substitutes for government expenditures, neglecting public investment and government accountability, and favoring investment in patronage goods and rent seeking activities, we may observe a decline in the demand for democracy by the remittance receivers who look for urgent improvement of their economic conditions, rather than acquiring more democratic values. This may in turn reduce the much needed legitimacy of democracy, which may reflect a decline of the level of democracy supplied in this region.

Acknowledgments

We would like to thank an anonymous referee for her/his constructive comments. Our thanks go also to Linguere Mously Mbaye, and the participants at the HDCA conference, 2015, Georgetown.

References

Abdih, Y., Chami, R., Dagher, J., Monteil, P., 2012. Remittances and institutions: are remittances a curse? World Development 40, 657–666.
Acevedo, J., 2013. Inspecting the safety valve: Remittances and protests in developing countries. Paoer Prepared for NORFACE.
Acosta, P., Calderon, C., Fajnzylber, P., Lopez, H., 2008. What is the impact of international remittances on poverty and inequality in latin america? World Development 36, 89–114.
Adams, R.H., Page, J., 2005. Do international migration and remittances reduce poverty in developing countries? World Development 33, 1645–1669.
Amuedo-Dorantes, C., Pozo, S., 2006a. Migration, remittances and male and female employment patterns. American Economic Review 96, 222–226.
Amuedo-Dorantes, C., Pozo, S., 2006b. Workers's remittances and business ownership in the Dominican Republic. The World Economy 29, 939–956.
Asparouhov, T., Muthen, B., 2008. Multilevel mixture models. In: Hancock, G.R., Samuelson, K.M. (Eds.), Advances in Letent variable Mixture Models. charlotte: Information Age Publishing.
Asparouhov, T., Muthen, B., 2009. Multilevel regression mixture analysis. Journal of the Royal Statistical Society 172, 639–657.
Berdiev, A.N., Kim, Y., Chang, C., 2013. Remittances and corruption. Economics Letters 118, 182–185.
Bourdet, Y., Falck, H., 2006. Emigrants' remittances and Dutch disease in Cape Verde. International Economic Journal 20, 267–284.
Bratton, M., Mattes, R., 2005. Public opinion, democracy, and market reform in Africa. Cambridge University Press.
Catrinescu, N., Leon-Ledesma, M., Piracha, M., 2009. Remittances, institutions, and economic growth. World Development 37, 81–92.
Diamond, L., 1999. Developing Democracy: Toward Consolidation. Baltimore: Johns Hopkins University Press..
Dionne, K. Y., Inman, K. L., Montinola, G. R., 2014. Another Resources Curse? The Impact of Remittances on Political Participation. Afrobarometer Working Paper No. 145.
Ebeke, C., Yogo, T., 2013. Remittances and the Voter Turnout in Sub-Saharan Africa: evidence from Macro and Micro Level data.African Development Bank Group Working Paper No 185.
Edwards, A.C., Ureta, M., 2003. International migration, remittances, and schooling: evidence fron El Salvador. Journal of Development Economics 72, 429–461.
Evans, G., Rose, P., 2007a. Education and support for democracy in sub-saharan africa: testing mechanisms of influence. Afrobarometer Working Paper NO. 75.
Evans, G., Rose, P., 2007b. Support for democracy in Malawi: does schooling matter? World Development 35, 904–919.
Fails, M.D., Pierce, H.N., 2010. Changing mass attitudes and democratic deepening. Political Research Quarterly 63, 174–187.
Frühwirth-Schnatter, 2006. Finite Mixture of Markov Switching Models. Spring-Verlag Series in Statistics. Springer-Nerlag, New York.
García-Peñalosa, C., Konte, M., 2014. Why are women less democratic than men? evidence from sub-saharan African countries? World Development 59, 104–119.
Germano, R., 2013. Migrants' remittances and economic voting in the Mexican countryside. Electoral Studies 32, 875–885.
Goodman, G.L., Hiskey, J.T., 2008. Exit without leaving political disengagement in high migration municipalities in Mexico. Comparative Politics 70, 169–188.
Gupta, S., Pattillo, C.A., Wagh, S., 2009. Effect of remittances on poverty and financial development in Sub-Saharan Africa. World Development 37, 104–115.
Henry, K.L., Muthen, B., 2010. Multilevel latent class analysis: an application of adolescent smoking typologies with individual and contextual predictors. Struct Equ Modeling 17, 193–215.
Konte, M., 2014. Gender difference in support for democracy in sub-saharan african countries? Do social institutions matter?UNU-MERIT Working Paper 2014-075.
Konte, M., Klasen, S., 2016. Gender difference in support for democracy in sub-saharan africa: do social institutions matter? Feminist Economics 22, 55–86.
Lipset, S.M., 1959. Some social requisites of democracy: economic development and political legitimacy. American Political Science Review 53, 69–105.
Lipset, S.M., 1963. Political Man: The Social Bases of Politics. Garden City, NY: Anchor.
MacCauley, J. F., Gyimah-Boadi, E., 2009. Religious Faith and Democracy: evidence from the Afrobarometer Surveys. Afrobarometer working paper No. 113.
Mattes, R., Bratton, M., 2001. African's surprising universalismn. Journal of Democracy 12, 107–121.
McLachlan, G.J., Peel, D., 2000. Finite Mixture Models. Wiley, New York.
Pfutze, T., 2012. Does migration promote democratization? Evidence from the Mexican transition. Journal of Comparative Economics 40, 159–175.
Pfutze, T., 2014. Clientelism versus social learning: the electoral effects of international migration. International Studies Quarterly 58, 295–305.
Resnick, D., Casale, D., 2011. The political participation of africa's youth: turnout partisanship and protest. American Journal of Political Science 51, 192–217.
Resnick, D., Casale, D., 2014. Young populations in young democracies: generational voting behavior in sub-saharan africa. Democratization 21, 1172–1194.
Stark, O., 1995. Altruism and Beyond. Oxford and Cambridge: Basil Blackwell.
Vermunt, J., 2003. Multilevel latent class models. Sociological Methodology 33, 213–239.