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## Article

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## DEVELOPMENT ECONOMICS | RESEARCH ARTICLE

# Do migrant remittances have state de-legitimizing tendencies? A micro-survey based evidence from Africa

Abreham Adera<sup>1\*</sup>

**Abstract:** This paper examines the micro-level link between migrant remittances and state legitimacy. The paper argues that there are two theoretical channels through which remittances may ultimately erode state legitimacy. First, remittance income earners may use remittance income to bribe state institutions, and thus may feel that they do not need to abide by the laws those state institutions enact. Second, remittances provide funds for political mobilization and thus may enhance uprisings against autocratic states. I test these claims using individual-level pooled data from 3 rounds of the Afrobarometer surveys. For the quantitative analysis, I use multiple linear regression, propensity score matching, and an informal method of testing for omitted variables bias. Overall, the findings of the study show that remittance-receiving Africans hold de-legitimizing behavior towards the state.

**Subjects:** Politics & Development; Regional Development; International Political Economy; Political Behavior and Participation

**Keywords:** Legitimacy; remittances; Africa; individuals; micro analysis

### 1. Introduction

States with high levels of legitimacy gain citizens' voluntary compliance (Berggren et al., 2015; Gibson & Caldeira, 2003); sustain a stable democracy (Lipset, 1959) and possess greater capacities for growth and development (Bornschiefer, 1989; Englebert, 2002). Thus, it is important to study factors that affect state legitimacy.

If anywhere, the effects of remittances should be more pronounced among African remittes. Remittances are a substantial inflow of income for African countries. According to the African growth initiative at Brookings, remittance inflows to Sub-Saharan Africa in the year 2019 are larger than foreign direct investment (FDI) inflows and are comparable in size to official development assistance. Moreover, the effects of remittances on state legitimacy should be a micro one. This is because state legitimacy is a micro-level concept. This is implied by the very definition of state legitimacy, which Levi et al. (2009) conceptualized as "the popular acceptance of government officials' right to govern". Similarly, recipients of remittances are individuals or their households. Given that both concepts are micro-founded, the implication then is that remittances may affect the way remittes evaluate the legitimacy of their states. This being the case, however, little micro-level evidence shows how receiving remittances shapes the way remittes evaluate the legitimacy of their states. Nor are the micro-mechanisms thereof clear. This paper attempts to fill in this research gap.



This paper advances the hypothesis that migrant remittances are one of the factors that affect state legitimacy. In particular, I hypothesize that remittance-receiving Africans hold delegitimizing behavior towards their state. I put forth two theoretical mechanisms because of which this happens. First, remittance income earners may use remittance income to bribe state institutions, and thus may feel that they do not need to abide by the laws those state institutions enact. Second, remittances provide funds for political mobilization and thus may enhance uprisings against autocratic states. To test my claim, I use individual-level data from multiple attitudinal surveys of the Afrobarometer. For the analysis, I employ multiple linear regression as the method of data analysis. As a robustness check, I also propensity score matching method. I also employ an informal way to assess selectivity bias based on measuring the ratio of selection on unobservables to selection on observables that would be required if one is to attribute the entire effect of remittance to selection bias.<sup>1</sup>

The results are consistent with what the paper claims. I find evidence that remittance receipts have state de-legitimizing effects. This main result survives a set of sensitivity checks. Adding sets of controls leaves the results unaffected. Following heuristics of gauging omitted variables bias, I find no evidence that the results are driven by omitted variables. Similarly, the results are robust to alternative measures of key variables. I also find evidence that remittances enhance corruption experiences and grease civil disobedience. Altogether, the results imply that an attempt to influence regime transition in Africa with a surge of remittances could give birth to illegitimate states.

This paper builds on and contributes to different stands of the literature. First, it adds to and extends the growing but limited body of research linking remittances to political behavior (Ahmed, 2017; C. Ebeke et al., 2013; Dionne et al., 2014; Escribà-Folch et al., 2018; Pfutze, 2012). It resonates with the literature that advocates remittances as means to overcome political clientelism (Pfutze, 2012). It is also related to a growing body of research that uncovers the role of social networks on trade and information flows (Bailey et al., 2018; Charoenwong et al., 2020; Cohen et al., 2017; Rauch, 1999). Moreover, it adds to the research on the socioeconomic effects of remittances (Adams, 2011; Burchardi & Hassan, 2013; Gupta et al., 2009; Kumar, 2019b; Kumar et al., 2021). It, however, contradicts with the research relating remittances to a lower likelihood of government turnover, regime collapse, and outbreaks of major political discontent (Abdih et al., 2012; Ahmed, 2013; Tyburski, 2014). It also disagrees with the literature that links remittances to reduced corruption (Tyburski, 2014). The results contradict the findings on foreign aid which has been found to have a null or even a positive effect on legitimacy (see, e.g., Blair et al., 2021).

The remainder of this paper is organized as follows: The theoretical relationship between remittances and state legitimacy is highlighted in section 2. Section 3 presents a summary of the existing literature and the gaps thereof. Section 4 describes the specification for empirical analysis. The description of the data is in section 5. The findings are presented in section 6. Section 7 concludes the work with a short summary.

## 2. The argument: Remittances and state legitimacy

By definition, State legitimacy is an outcome of “the beliefs citizens hold about the normative appropriateness of government structures, officials, and processes” (Levi et al., 2009). Similarly, recipients of remittances are individuals or their households. It is thus likely that remittances affect behavior towards the state. I claim that there are two theoretical through which remittances erode state legitimacy as defined above. The first mechanism is corruption. Corruption may wear down legitimacy because of the victimization threat resulting from paying for what one is legally entitled to (Seligson, 2002). Or remittance income earners may use remittance income to bribe state institutions, and thus may feel that they do not need to abide by the rules that state institutions enact. Bayley (1966) writes that “A person with money who is ideologically opposed to the regime or who dislikes the personnel at the top, may nonetheless be able to make the repugnant system work for him by means of illicit influence.” This is to say that corruption has “trouble-saving”

benefits. This is in line with the argument of “the grease the wheels’ hypothesis”, which posits that a graft helps solve either an ideological alienation or other forms of system inefficiencies (see Méon & Weill, 2010 for a review on the “grease the wheels” hypothesis). I thus hypothesize that African remittes pay bribes in order to either avoid troubles or grease the inefficient bureaucracy (Lui, 1985), which will eventually erode state legitimacy. This prediction is likely to hold in Africa, where power-maximizing leaders covertly permit their supporters to benefit from engaging in corruption (Mesquita et al., 2005).

Mesquita et al. (2005) develop a model of the selectorate theory. Their theory abstracts from two institutions. These are referred to as the “winning coalition” and the “selectorate”. The selectorate (S) is “the set of people with a say in choosing leaders and with a prospect of gaining access to special privileges doled out by leaders”, whereas the winning coalition (W) is “the subgroup of the selectorate who maintain incumbents in office and in exchange receive special privileges.” In autocracies, W is small and includes the military, the police, or civil servants that help keep the incumbents in office. One attractive prediction of selectorate theory is political survival. The model predicts that in low W and large S systems, leaders politically survive strategy by providing “private goods” or “targeted public goods” to W members, and thus autocratic systems foster corruption. This is because corruption is a private good and hence leaders facing low W have low incentives to eliminate corruption. Thus corruption in such systems is the mechanism of expropriating resources to provide benefits to the small number of essential supporters. In systems where corruption is covertly permitted to stay in power, remittes bribe state institutions such as the police and this is likely to eventually erode state legitimacy.

The second mechanism is civil disobedience. This mechanism follows from the selectorate model and the resources theory of political participation (Brady et al., 1995; Mesquita et al., 2005). The model of the selectorate suggests that oppressive and regressive measures are the most attractive mechanisms of political survival in small coalition systems (Mesquita et al., 2005). This is because the private benefits or privileges from supporting such a regime are large and thus core supporters would do anything to protect such regimes. This makes electoral participation such as voting a less effective way of removing bad leaders. In such regimes, symbolic elections are run to merely legitimize incumbents and appease the international community (Levitsky & Way, 2002; Schedler, 2013). Citizens may respond to such repressive regimes with violence or civil disobedience and this leads to regime instability (Jong-A-Pin, 2009).<sup>2</sup> By providing funds for mobilization, as what the resources theory of political participation posits (Brady et al., 1995), remittances may enhance uprisings against the state (Chenoweth & Ulfelder, 2017; Gilley, 2006; Miller & Ritter, 2014; White et al., 2015).

In passing, it is important to note that the effect of remittances on government support is not strait forward. A surge in remittances may, however, enable power-mongering leaders to divert public resources to patronage and military spending (see Baudassé et al., 2018, for a review).<sup>3</sup> This increases the coercive capacity of the regime as well as boosts clientelistic political ties, both of which draw citizens to compliance (Escribà-Folch et al., 2018). Moreover, the opportunity cost of challenging autocratic regimes rises since remittances increase economic well-being or decrease economic deprivations and thus remittes comply with a regime (Barry et al., 2014; Brancati, 2014). Thus, the effect of remittances on anti-regime behavior is ambiguous and remains to be a subject of empirical research.

### 3. Existing literature

This paper builds on and contributes to different stands of the literature. Most of the research on remittances dwells on their socioeconomic effects. This line of the research documents that remittances on subjective well-being (Ivlevs et al., 2019; Kumar et al., 2021), poverty (Acheampong et al., 2021; Bertoli & Marchetta, 2014; Imai et al., 2014; Kumar, 2019b; Wagle & Devkota, 2018), child labor (Binci & Giannelli, 2018), income inequality (Olayungbo & Quadri, 2019), food security (Moniruzzaman, 2022; Mora-Rivera & van Gameren, 2021), education (Gyimah-

Brempong & Asiedu, 2015), labor supply, education, health, and economic growth (Adams, 2011; Gupta et al., 2009; Kumar, 2019a). That said, however, the existing work research on Africa remains inconclusive. This is reflected in a recent meta-analysis by Cazachevici et al. (2020) which shows that remittances are growth-enhancing in Asia but not in Africa.

This paper is mainly related to the literature on the institutional consequences of international remittance. The most researched topic in this regard is the impact of remittances on corruption. Theoretically, remittances enable households receiving them to be able to provide themselves with education, health, or other public goods and services (see Doyle, 2015; H. Ebeke, 2012). This allows the government to cut its expenditure on public goods and thus divert resources for patronage and kleptocracy (Abdih et al., 2012; Ahmed, 2012; Stokes et al., 2013). Against this top-down substitution effect, Ahmed (2013) finds that remittances encourage corruption in a panel of 57 non-oil-producing poor countries. For the period from 1990 to 2000, Abdih et al. (2012) document similar findings for a cross-section of 111 countries. There is also evidence of a negative link between remittances and corruption. For a panel of states across Mexico Tyburski (2012) finds that remittances bolster support for opposition parties and thus discourage political patronage spending. Pfutze (2012) finds similar results for a panel of municipalities across Mexico. For 127 developing countries for the time 2000 to 2010, Tyburski (2014) finds that remittances have a tendency of both mitigating and aggravating effects on corruption. For a panel of 111 countries, Berdiev et al. (2013) find remittances catalyzed corruption over the period from 1986 to 2010. In nutshell, the macro empirical evidence on the influence of remittances on corruption is mixed.

There are several gaps in the literature that links remittances to institutional outcomes. Most of it relies on a macro-level analysis. The macro theories tend to also infer that remitees can provide themselves with all types of public goods and services. Yet, it is highly difficult for individuals to provide themselves with certain public goods such as public security (Garcia et al., 2021). Similarly, the macro-level analysis makes an implicit assumption assumes that governments can detect remittance receipts. However, recipients of remittances are individuals, and thus remittances affect government behavior only indirectly through their effect on recipient behavior (Mosley & Singer, 2015). Finally, Remittances are a substantial inflow of income for African countries. According to the African growth initiative at Brookings, remittance inflows to Sub-Saharan Africa in the year 2019 are larger than foreign direct investment (FDI) inflows and are comparable in size to official development assistance. Nonetheless, there is hardly any evidence of the link between remittances and legitimacy. All of these indicate the need to evaluate the direct link between remittances and legitimacy if one is to provide a clear-cut as to how remittances affect citizens' attitudes towards the state. One novelty of this paper is that it examines the institutional effect of remittances at the micro level.

As far as past quantitative research on Africa is concerned, a few works provide some insight into the link between remittances and political behavior. Using macro-level data for Africa, (Williams, 2017) shows that remittances affect democratic institutions positively. Yet, (Konte, 2016) documents that remitees who prefer improvements in their economic conditions to their rights and freedom are less supportive of democracy. Moreover, (Dionne et al., 2014) and (C. Ebeke et al., 2013) provide evidence that remittance receipts shrink electoral turnouts, whereas (Dionne et al., 2014) has it that remitees contact government officials and are more likely to protest. Furthermore, (Escribà-Folch et al., 2018) find that remittances catalyze anti-dictator protests. Although these previous works provide some insight; none of them consider the remittances-state legitimacy nexus directly. Let alone considering the link between remittances and state legitimacy, they have not answered why remitees vote and protest more, yet interact with government officials or are not less likely to support democratization. Besides, work such as (Dionne et al., 2014; Escribà-Folch et al., 2018; Konte, 2016) rely only on one round (the fourth round) of the Afrobarometer survey. A recent scholarship implies that public opinion surveys from developing economies are likely to yield inaccurate and biased estimates as they suffer from a significant duplication. One solution in such conditions is to consider data from other rounds

of a survey (Kuriakose & Robbins, 2016). This paper thus relies on data from multiple survey rounds of the Afrobarometer surveys (i.e., the fourth, the sixth, and the seventh rounds).

This paper mainly adds to and extends the growing but limited body of research linking remittances to political behavior (Ahmed, 2017; C. Ebeke et al., 2013; Dionne et al., 2014; Escribà-Folch et al., 2018; Pfutze, 2012). It also resonates with the literature that advocates remittances as means to overcome political clientelism (Pfutze, 2012). It adds to this line of research by linking remittances to state legitimacy at the micro level.

The results of the paper, however, contradict the research relating remittances to a lower likelihood of government turnover, regime collapse, and outbreaks of major political discontent (Abdih et al., 2012; Ahmed, 2013; Tyburski, 2014). It also disagrees with the literature that links remittances to reduced corruption (Tyburski, 2014).

This paper also adds to the literature that affects the impact of foreign aid and state legitimacy. The empirical evidence from behavioral games and survey experiments show a null or sometimes a positive impact of foreign aid projects on the legitimacy of the government (Blair et al., 2021; Dietrich & Winters, 2015; Dietrich et al., 2018, for a case in Liberia, Bangladesh, and India, see respectively). The results of this paper contradict these findings on foreign aid.

#### 4. Empirical set up

As outlined earlier, the main aim here is to show how receiving remittances shapes the way remitees evaluate the legitimacy of their states. In particular, I test the hypothesis that remittances de-legitimize regimes in Sub-Saharan Africa. To empirically address this claim, I estimate a specification of the form:

$$Y_{irct} = \lambda \text{Remit}_{irct} + X_{irct}'\beta + \theta_c + S_t + \epsilon_{irct} \quad (1)$$

Where  $Y_{irct}$  is the variable of interest for individual  $i$  residing in the region  $r$  of country  $c$  at time  $t$ ;  $\text{Remit}_{irct}$  is an indicator of receipt of remittance for individual  $i$ ;  $X_{irct}'$  is the vector of controls;  $\theta_c$  are country fixed effects;  $S_t$  are survey rounds fixed effects, and  $\epsilon_{irct}$  is the idiosyncratic error term.

The analysis in this paper is at the individual level. As such there are minimal concerns for endogeneity that may arise from reverse causation. If anything, remittances originate from migrant destination countries and thus are largely outside the control of receiving states. Following this reasoning, I will mainly use simple linear regression or pooled OLS to estimate the empirical specification in equation 1. Thus, the main method of analysis in the paper is multiple linear regression. I also use the matching method (propensity score matching). Generally, these are the two methods I can use in this paper given the structure of the data. Luckily, the results are robust whether I use multiple linear regression or PSM. I also use a method that shows that the results are less likely to be affected by omitted variable bias (OVB). That is, neither OVB nor selection biases the findings.

##### 4.1. Accounting for confounding factors

There are several variables that I control for. These include an individual's levels of education, employment status, lived poverty index, incumbency support index, crime victimization index, age, gender (a male dummy), and local public goods index. These variables are taken on the basis of existing literature. These variables help to account for alternative explanations. First, neopatrimonialism is a common feature of African politics (Erdmann & Engel, 2006). This is a system of patron-client networks where politicians secure the loyalty of citizens by providing state resources to a supporting coalition. In the presence of such patron-client networks, remittances serve as an "exit mechanism" in that it empowers citizens to eventually abandon clientelistic networks and even oppose the regime. Even in the absence of such networks, (Ahmed, 2017) argues that the



increase in household income due to remittances makes remitees positively rate the economic condition of their country, which they attribute to incumbents. He tests his argument in a cross-section of 18 countries from Latin America and finds evidence that remitees are more likely to vote for incumbents. Similarly, (Escribà-Folch et al., 2018) find that pro-government support moderates the negative effects of remittances. To account for such an explanation, I control for a measure of incumbency support. I also control for access to public goods since these may indicate the presence of patronage networks.

Second, existing literature argues that political or economic deprivations may have repercussions on state legitimacy (Gurr, 2015). As remittances have welfare-enhancing effects, then the implication is that the effect of remittances works through their effect of reducing grievances. For that reason, I control for a set of factors showing the economic conditions of individuals in the sample. These controls include education, employment, and poverty.

Third, criminal violence decreases remittance receipts (Gurr, 2015) and thus affects whether the substitution effects of remittances disengage remitees from government affairs (Coupé & Obrizan, 2016; Garcia et al., 2021; Ley, 2018; Malone, 2013; Trelles & Carreras, 2012). I account for this explanation by controlling for a measure of crime victimization.

Fourth, time-invariant observable and unobservable cross-country variations in the prevailing macroeconomic conditions, the quality of political institutions, colonial history, or ethnic heterogeneity may affect our results (e.g., see Ahmed, 2017; McGuirk, 2013). Such factors are generally time-invariant for individuals from within the same country. Besides, there could be some time variant factors. I thus include country ( $\theta_c$ ) and survey round ( $S_t$ ) fixed effects.

## 5. Data

This paper utilizes data from 3 rounds of the Afrobarometer survey.<sup>4</sup> Covering a large sample of individuals from African countries, the Afrobarometer surveys assess respondents' attitudes towards issues that include civil society, institutional trust, corruption perception and experiences, government performance, ethnic identity, subjective living conditions, and crime. The number of countries and individuals covered in the survey has increased over time. The countries in the survey are 12, 16, 18, 20, 34, and 36 in Rounds 1 (1999–2001), 2 (2002–2004), 3 (2005–2006), 4 (2008), 5 (2011–2013), 6 (2014–2015) and 7 (2016–2018), respectively.

In this work, I rely on rounds 4, 6, and 7 of these surveys since these are the only rounds that contain the measure of remittance receipts.

### 5.1. Variable construction

Table A1 reports the dependent and explanatory variables used in this study. The discussion of how each of these variables is constructed is given in the following section.

### 5.2. Dependent variables

**Legitimacy** The key dependent variable is a measure of legitimacy. (Levi et al., 2009) conceptualized legitimacy as an outcome of “the beliefs citizens hold about the normative appropriateness of government structures, officials, and processes”. Following this conceptualization, the key dependent variable, a measure which I call “legitimacy index”, comes from three questions asked as

a) “The tax department always has the right to make people pay taxes”; b) “the courts always have the right to make decisions people abide by”; c) “the police always have the right to make people obey the law.”

Relevant responses to each of these questions are coded as 1 for “strongly”, 2 for “disagree”, 3 for “disagree”, 3 for “neither disagree nor agree”, 4 for “agree”, and 5 for “strongly agree”.



Following previous research, (see, e.g., Carter, 2011), I generate a legitimacy index. The legitimacy index is the additive index of the responses to the three questions and ranges between 3 and 15.

**Corruption** To measure corruption, I employ two questions from the Afrobarometer on experiences of bribing. The survey asks respondents if they, in the preceding year, have “had to pay a bribe in order to get a document or a permit or avoid a problem with the police (avoid a fine or arrest or pass a checkpoint)”. The responses to these questions range between 0 and 3, which consecutively captures the response categories “Never”, “Once or twice”, “A few times”, and “Often”.

**Civil Disobedience** To measure civil disobedience, I extract an indicator from the Afrobarometer. The measure of civil disobedience is a 4-point scale based measure based on the question that asks if an individual “Attended a demonstration or protests”.

### 5.3. Key explanatory variable

The key explanatory variable is the receipt of remittances. To my knowledge, data on the amount of remittance receipts at the individual level is not available. Luckily, the Afrobarometer survey contains a question on remittance receipts. I thus rely on the Afrobarometer survey question which asks respondents about receiving remittances. Such questions on remittances were asked in rounds 4, 6, and 7 of the Afrobarometer. It is from the responses to such questions that I construct measures of receiving remittances.

**Remittance** In rounds 4 and 6 of the Afrobarometer, a question on receiving remittance is asked as,

How often, if at all, do you or anyone in your household receive money remittances from friends or relatives living outside of the country?

This question is answered as 5 for “At least once a month”, 4 for “At least every 3 months”, 3 for “At least every 6 months”, 2 for “At least once a year”, 1 for “Less than once a year, and 0 for “Never”. In round 7, a question on receipt of remittances is asked as

Considering ALL the activities you engage in to secure a livelihood, how much, if at all, do you depend on receiving remittances from relatives or friends living in other countries?

The answers are 0 for “Not at all”, 1 for “A little bit”, 2 for “Somewhat” and 3 for “A lot”.

**Remittance Dummy** In the analysis, I mainly use a dummy variable which equals 1 if the individuals receive remittance or 0 otherwise. This is motivated by two reasons. First, the questions and answers on remittance receipts in rounds 4 and 6 are slightly different from a similar question in round 7. For consistency, I create a dummy of receiving remittances that equals 1 if the individual receives remittance or 0 otherwise. For brevity, I denote this dummy by Remit (0,1), and this serves as the main explanatory variable in the analysis. Later in the analysis, I will also show that results are robust to alternatively using the original measure of remittance receipts. Second, I will use propensity score matching (PSM) as an alternative method of data analysis. And a binary treatment dummy is more suitable for PSM.

### 5.4. Control variables

I have also extracted control variables that include the incumbency support index (ISI), lived poverty index, crime victimization index, and local public goods index.

**Incumbency support index (ISI)** The measure of ISI is based on trust towards the president as well as trust towards the ruling party and the performance of the president. Trusting the ruling party and trusting the president are based on the questions on how much respondents trust the

ruling party and how much they trust the president. The answers to both questions are coded as 0 for “Not at all”, 1 for “Just a little”, 2 for “Somewhat” and 3 for “A lot”. The performance of the president is based on the question that asks whether a citizen approves or disapproves of the way the president of the country has performed his job. The relevant answers to this question are 1 for “Strongly Disapprove”, 2 for “Disapprove”, 3 for “Approve” and 4 for “Strongly Approve”. The incumbency support index (ISI) then is constructed as an alpha scale from trust the president, the president’s performance, and trust the ruling party indices.

**Crime Victimization** The measure of crime victimization in this paper is similar to measures used in existing research (see, e.g., Garcia et al., 2021). I extracted it from the Afrobarometer and is based on the respondent’s self-reported experience of any type of crime that the respondent or any household member faced over the past year. The Afrobarometer asks whether the respondent or a member of her or his family “had been physically attacked” or “had something stolen” during the past 12 months. The relevant answer to these questions goes from 0 for “No” to 3 for “Three or more times”. This 4-point scale index constitutes the measure of crime victimization.

**Local Public goods index** This variable is constructed as a summative index of dummies showing the availability of electricity, school, health center, market, sewage, and pipe water in the Enumeration Area of the Afrobarometer surveys.

**Lived Poverty Index (LPI)** LPI is a variable used to capture poverty. It is constructed following existing research. As in (Mattes, 2008), LPI is based on the question “Over the past year, how often, if ever have you or your family gone without “Enough food to eat?”, “Enough clean water for home use?”, “Medicines or medical treatment?”, “Enough fuel to cook your food?”, “A cash income?” and “School expenses for your children (like fees, uniforms, or books)?” The answers are 0 for “Never”, 1 for “Just Once”, 2 for “Twice,” 3 for “Several Times,” 4 for “Many Times,” or 5 for “Always”. A higher value on this variable shows higher incidences of lived poverty.

**Education** In the Afrobarometer, education is coded on a scale from 0 (no schooling) up to 9 (postgraduate education). Thus higher values on this indicator show a higher education level.

**Employment status** Employment status is based on the question, “Do you have a job that pays cash income? Is it full-time or part-time? And are you presently looking for a job (even if you are presently working)?”. The answers are 0 for “No (not looking)”, 1 for “No (looking)”, 2 for “Yes, part-time (not looking)”, 3 for “Yes, part-time (looking)”, 4 for “Yes, full time (not looking)” and, 5 for “Yes, full time (looking)”.

## 6. Main results

Estimates from multiple linear regression (OLS) are presented in Table A2. The unit of observation is the individual respondent. The dependent variable is a state legitimacy index at the individual level. In column 1, no controls are included. The estimated coefficient on Remit (0,1) dummy is statistically significant and negative. In column 2, I control for the individual’s age, gender (a male dummy), levels of education, employment status, lived poverty, crime victimization, political support, and local public goods. In column 3, I further add county fixed effects. Column 4 further controls for survey wave fixed effects. The result remains robust to this battery of controls. Overall, it turns out that remittances matter for legitimacy in our sample of African countries. That is, African remittances hold negative assessments toward state legitimacy.

The positive coefficients on employment status and the negative coefficient on lived poverty index are consistent with the literature arguing that economic deprivation spurs resentment with the state (Brancati, 2014; Gurr, 2015). While the negative effect of crime victimization is similar to the finding of (Garcia et al., 2021), the positive coefficient of the incumbency support index is consistent with the results of (Ahmed, 2017).

## 6.1. Sensitivity analysis

In this section, I present a set of sensitivity analyses. Overall, the main result is robust to the set of sensitivity analyses I carried out.

### 6.1.1. Omitted Variable Bias (OVB)

The relationship I found so far could be a result of unobserved omitted factors that are correlated with both remittances and state legitimacy. For instance, remittances might be more important in fragile states. Or motivation for corrupted behavior (bribing, for instance) could be driven by other people engaging in corrupted behavior. This could lead to an overestimation of the role of remittances in corruption. To gauge if omitted variables are biasing our estimates, I employ heuristics that draw from the insights of the approach of (Altonji et al., 2005). This method is an informal way to assess selectivity bias based on measuring the ratio of selection on unobservables to selection on observables that would be required if one is to attribute the entire effect of remittances to selection bias. This requires calculating a ratio that helps to gauge the size of unobservable factors relative to observable factors. The ratio tells us how much the size of unobservables needs to be to entirely attribute an estimated relationship to omitted variables. The larger that ratio is, the less likely that an estimated relationship suffers from a selection on unobservables.

Following the heuristics of gauging OVB, I compare the point estimate of  $\lambda$  with a full set of controls (i.e.,  $\hat{\lambda}^F$ ) with the point estimate obtained from a restricted, where no controls are included (i.e.,  $\hat{\lambda}^R$ ). In column 4, I have  $\hat{\lambda}^F = -0.162$ , which is the estimate of  $\lambda$  when a full set of controls is included. In column 2, we have  $\hat{\lambda}^R = -0.174$ , the estimate of  $\lambda$  when no controls are included. The ratio between  $\hat{\lambda}^F$  and  $\hat{\lambda}^R - \hat{\lambda}^F$  is about 13. If we repeat the same exercise for the estimates in columns 2 and 3, the ratio between  $\hat{\lambda}^F$  and  $\hat{\lambda}^R - \hat{\lambda}^F$  is larger than 13. This exercise suggests that the influence of unobservables would have to be more than 13 times the influence of observables to explain away the entire statistical relationship between remittances and state legitimacy. This implies that the results are less likely to suffer from OVB.

## 6.2. Estimates from propensity score matching

One might still be concerned with “selection” on observables and unobservables. Remittances might flow mostly to areas or individuals with certain characteristics. Similarly, state (de)legitimacy may attract more or fewer remittances. This could lead to over or underestimation of the role of remittances. Hence, I turn to techniques to mitigate concerns of the selection of observables and unobservables. To mitigate potential concerns with the selection on observables, I resort to a matching technique. In particular, I use Propensity Score Matching (PSM) technique.

PSM seeks to mimic randomization to overcome issues of selection bias that plague non-experimental methods. It is a quasi-experimental method in which the researcher uses statistical techniques to construct an artificial control group by matching each treated unit with a non-treated unit of similar characteristics (Rosenbaum & Rubin, 1983). There are generally two steps in PSM applications. First, PSM computes the probability that a unit will enroll in a program based on observed characteristics. This is the propensity score. Then, PSM matches treated units to untreated units based on the propensity score. The identifying assumption of PSM is that, conditional on some observable characteristics, untreated units can be compared to treated units as if the treatment has been fully randomized.

The results from the PSM method are reported in Table A3. Using the PSM, I found the estimate on remittances to be  $-0.198$ . This estimate is statistically significant at 1 percent and is slightly higher in magnitude than those reported in Table A2. This suggests that the OLS estimates are conservative. Thus, relying on the OLS estimates is not that problematic.

One issue is that the matching method takes into account only the selection on observables. If there are unobserved variables that affect the assignment into treatment and the outcome variable simultaneously, a hidden bias might arise to which matching estimators are not robust (Rosenbaum, 2002). This problem can be addressed with the bounding approach proposed by (Rosenbaum, 2002). The idea here is to determine how strongly an unmeasured variable must influence the selection process to undermine the finding. The empirical application of the bounding approach is advanced by (Becker & Caliendo, 2007). I applied this technique and I find that there is neither over- nor under-estimation of the treatment effects due to an “unobservable variable.”

#### 6.2.1. Alternative measures of state legitimacy

Next, I consider using alternative measures of state legitimacy. Most commonly used proxies for state legitimacy include tax compliance and tax morale (e.g., see Blair et al., 2021; Levi et al., 2009). Tax morale is the extent of belief a citizen has about paying taxes voluntarily, whereas the extent to which citizens decide to comply with tax laws is tax compliance (Luttmer & Singhal, 2014). The measure of tax compliance is based on the question showing the number of times a person refuses to pay a fee or a tax to the state. The answers are 4 for “Often”, 3 for “Several times”, 2 for “Once or twice”, 1 for “Would if had the chance” and “Would never do this”. We re-coded the answers so that higher values show higher tax compliance. I measure tax morale using the question “The tax authorities always have the right to make people pay taxes”. This question is answered as 1 for “Strongly Disagree”, 2 for “Disagree”, 3 for “Neither Agree Nor Disagree”, 4 for “Agree”, and 5 for “Strongly Agree”.

The result of using tax morale as an alternative dependent variable is given in column 1 of Table A4; whereas the results of using tax compliance as the dependent variable are given in column 2. In both cases, the point estimate of  $\lambda$  is statistically significant and negative. Thus, the results hold irrespective of the kind of measures I use.

#### 6.2.2. Alternative definition for remittance

I also adopt an alternative definition for remittance instead of a binary variable. I re-estimated the main specification using the original coding of the remittance variable. The result is reported in column 3 of Table A4. As can be seen, the result is robust to this alternative definition of remittance receipts.

#### 6.2.3. Restricting the sample

Finally, I restrict the sample to rounds 4 and 6. As noted in the data section, the questions and answers on remittance receipts in rounds 4 and 6 are slightly different from the ones in round 7. To make sure that this does not bias the result, I drop the observations from round 7. The results after dropping round 7 are given in column 3 of Table A4. The results are robust to this sensitivity check.

### 6.3. Mechanisms

Table A5 reports results on the likely mechanisms. As claimed in section 2, corruption experiences and civil disobedience are the likely channels as to why citizens receiving remittances in African countries hold de-legitimizing behavior towards the state. In this section, I provide evidence if this is indeed the case in my sample.

To test for the civil disobedience mechanism, I extract an indicator from the Afrobarometer. The measure of civil disobedience is a 4-point scale based measure based on the question that asks if an individual “Attended a demonstration or protests”. Since previous works (see Escribà-Folch et al., 2018, for instance) argue that pro-government support moderates the negative effects of remittances,<sup>5</sup> I thus add the interaction term,  $Remit * ISI_{ict}$ , to account for that possibility. As can be seen from column 1 of Table A5, remitees are more likely to protest. This result sheds light on the limited findings in the area. Unlike (Dionne et al., 2014), however, my results imply that protests are decreasing in support for incumbents. That is, remittance inflow is positively related to protests; but only for individuals that are less supportive of the government.

Micro-level research on the consequences of receiving remittances for behavior to oppose the government remains thin. For Africa, I am aware of only two works. While (Escribà-Folch et al., 2018) shows that remittances precipitate anti-government protest in 8 autocratic countries in Africa, (Dionne et al., 2014) finds similar results for a cross-section of 20 African countries. One commonality in these works is that they both rely on only the fourth round of the Afrobarometer survey. My difference lies in that I rely on data from multiple (i.e., the fourth, the sixth, and the seventh) survey rounds of the Afrobarometer surveys.

To test for the corruption mechanism, I employ two questions from Afrobarometer on experiences of bribing. The survey asks respondents if they, in the preceding year, have “had to pay a bribe in order to get a document or a permit or avoid a problem with the police (avoid a fine or arrest or pass a checkpoint)”. The responses to these questions range between 0 and 3, which consecutively captures the response categories “Never”, “Once or twice”, “A few times”, and “Often”.

The result in column 2 of 5 indicates that remitees pay bribes to get a document. The result in column 3 of 5 indicates that remitees pay bribes to avoid problems with the police. Thus, corruption and remittance receipts are positively correlated.

## 7. Conclusion

This paper examines the micro link between migrant remittances and state legitimacy in Africa. It advances the hypothesis that there is an inverse link between migrant remittances and state legitimacy. I claim that there are two reasons for this. First, remittance income earners may use remittance income to bribe state institutions, and thus may feel that they do not need to abide by the rules that state institutions enact. Second, remittances provide funds for political mobilization and thus may enhance uprisings against autocratic states or their institutions. Through these channels, remittances may ultimately erode state legitimacy.

The claims of this paper are tested using data from 3 rounds of the Afrobarometer surveys. For the quantitative analysis, I use multiple linear regression, propensity score matching, and an informal method of testing for omitted variables bias. The results from all of these approaches are consistent. Conditional on several controls, I find three interesting results. First, I find a strong negative association between migrant remittances and state legitimacy. Second, I find evidence that remittance earners have higher incidences of paying bribes. Third, I also find remittance earners have a higher propensity of protesting against the regime.

To my knowledge, this is the first micro-level work that directly links remittance receipts and state legitimacy beliefs in Africa. The paper has important policy implications. The results illuminate that remittances are negative for state legitimacy. Likewise, the paper provides evidence that remittances can help mobilize anti-government protests. If evaluated from this perspective per se, remittances could serve as alternative policy instruments at the disposal of migrant households for promoting democracy and quality institutions in Africa. Notwithstanding this, the paper also finds evidence that remittances are ineffective for anti-government mobilization among pro-government citizens. Likewise, it is also found that remittances are the resources that migrant households use to take advantage of state institutions such as the police. In light of these results, remitees take advantage of state institutions by corrupting them, and this is likely to eventually erode state legitimacy.

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## Notes

1. This approach is proposed by Altonji et al. (2005). I briefly summarize this approach in the results section.
2. Real-world examples show that this is indeed a typical feature of autocratic regimes. For instance, Ethiopia had 5 ostensible elections between 1991 and 2018, all of which were won by one party. In response, Ethiopians from different walks of life went on anti-government protests.
3. (Tsui, 2010) argues that natural resource such as oil increases military spending, which helps non-democratic governments to counter popular uprisings. Similarly, (Easton & Montinola, 2017) find that remittance inflow increases military spending in autocracies, but not in democracies.
4. This data is accessed at <https://www.afrobarometer.org/data/>.
5. (Escribà-Folch et al., 2018) construct a pro-government index at the district or region level for round 4 of the Afrobarometer survey. The index of incumbency support is at the individual level for rounds 4, 6, and 7.

## Availability of data and materials

All data used for this study are included in this article.

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## Appendix

**Table A1. Summary statistics**

| VARIABLES                  | N       | Mean  | SD    | MIN | MAX |
|----------------------------|---------|-------|-------|-----|-----|
| <b>Dependent variables</b> |         |       |       |     |     |
| Legitimacy index           | 120,089 | 11.40 | 2.830 | 3   | 15  |
| Tax compliance             | 96,120  | 3.591 | 0.807 | 0   | 4   |
| Tax Morale Index           | 121,782 | 3.772 | 1.203 | 1   | 5   |
| Civil disobedience         | 124,495 | 0.613 | 0.876 | 0   | 4   |
| Bribe for Document         | 62,588  | 0.301 | 0.698 | 0   | 3   |
| Bribe police               | 48,217  | 0.404 | 0.843 | 0   | 3   |
| <b>Control variables</b>   |         |       |       |     |     |
| Remit (0,1)                | 125,900 | 0.200 | 0.400 | 0   | 1   |
| Lived Poverty Index        | 126,051 | 1.183 | 0.930 | 0   | 4   |
| Levels of Education        | 126,993 | 3.393 | 2.191 | 0   | 9   |
| Employment                 | 126,920 | 1.321 | 1.309 | 0   | 5   |
| Incumbency support Index   | 126,046 | 1.965 | 0.965 | 0   | 4   |
| Public Goods index         | 122,563 | 3.202 | 1.708 | 0   | 6   |
| Crime Victimization Index  | 127,231 | 0.161 | 0.538 | 0   | 4   |
| Age                        | 126,796 | 37.02 | 14.68 | 18  | 110 |
| Gender (male dummy)        | 127,471 | 0.498 | 0.500 | 0   | 1   |

**Table A2. Remittances and state legitimacy**

|                          | (1)                  | (2)                  | (3)                  | (4)                  |
|--------------------------|----------------------|----------------------|----------------------|----------------------|
| Remit (0,1)              | −0.174***<br>(0.046) | −0.157***<br>(0.044) | −0.159***<br>(0.038) | −0.162***<br>(0.038) |
| Levels of education      |                      | 0.028***<br>(0.010)  | 0.030***<br>(0.009)  | 0.029***<br>(0.009)  |
| Employment Status        |                      | 0.027*<br>(0.015)    | 0.029**<br>(0.012)   | 0.038***<br>(0.012)  |
| Lived Poverty Index      |                      | −0.177***<br>(0.032) | −0.159***<br>(0.026) | −0.155***<br>(0.026) |
| Local public goods       |                      | −0.021<br>(0.014)    | 0.017<br>(0.012)     | 0.016<br>(0.011)     |
| Incumbency support Index |                      | 0.442***<br>(0.032)  | 0.468***<br>(0.027)  | 0.475***<br>(0.027)  |
| Crime Victimization      |                      | −0.112***<br>(0.027) | −0.106***<br>(0.024) | −0.100***<br>(0.024) |
| Age of Respondent        |                      | 0.007***<br>(0.001)  | 0.006***<br>(0.001)  | 0.006***<br>(0.001)  |
| Male dummy               |                      | 0.041**<br>(0.018)   | 0.044**<br>(0.017)   | 0.043**<br>(0.018)   |
| Observations             | 118,772              | 111,196              | 111,196              | 111,196              |
| R-squared                | 0.001                | 0.031                | 0.056                | 0.057                |
| Controls                 | No                   | Yes                  | Yes                  | Yes                  |
| Country FE               | No                   | No                   | Yes                  | Yes                  |
| Survey Wave FE           | No                   | No                   | No                   | Yes                  |
| Survey rounds            | 4,6,7                | 4,6,7                | 4,6,7                | 4,6,7                |

**Notes:** The dependent variable is a state legitimacy index at the individual level. Standard errors (in parentheses) are clustered at the regional level. The estimates are from OLS. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

**Table A3. Estimates from propensity score matching**

| Dependent Variable: Legitimacy index |                  |                  |
|--------------------------------------|------------------|------------------|
| Sample                               | Estimate         | Difference (ATT) |
| Treated                              | 11.2767696       |                  |
| Untreated (Control)                  | 11.4752618       |                  |
|                                      |                  | −.198492235***   |
|                                      |                  | S.E (.029947143) |
|                                      |                  | T-stat (−6.63)   |
|                                      | Matching Quality | Common Support   |
|                                      | Off support      | On support       |
| Treated                              | 3                | 22,152           |
| Untreated (Control)                  | 0                | 89,041           |

**Notes:** The propensity scores are calculated from the respondent's levels of education, employment status, lived poverty index, incumbency support index, crime victimization index, age, gender (a male dummy), local public goods index, country of the respondent, and years of surveys rounds. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

**Table A4. Robustness Checks**

| VARIABLES      | (1)<br>Tax Morale    | (2)<br>Tax compliance | (3)<br>Legitimacy Index | (4)<br>Legitimacy Index |
|----------------|----------------------|-----------------------|-------------------------|-------------------------|
| Remit (0,1)    | −0.050***<br>(0.014) | −0.112***<br>(0.015)  |                         | −0.159***<br>(0.046)    |
| Remittance     |                      |                       | −0.037***<br>(0.012)    |                         |
| Observations   | 112,615              | 88,845                | 111,196                 | 71,384                  |
| R-squared      | 0.051                | 0.041                 | 0.057                   | 0.067                   |
| Controls       | Yes                  | Yes                   | Yes                     | Yes                     |
| Country FE     | Yes                  | Yes                   | Yes                     | Yes                     |
| Survey Wave FE | Yes                  | Yes                   | Yes                     | Yes                     |
| Survey rounds  | 4,6,7                | 4,6,7                 | 4,6,7                   | 4,6                     |

*Notes:* Controls include the respondent's levels of education, employment status, lived poverty index, incumbency support index, crime victimization index, age, gender (a male dummy), and local public goods index. Standard errors (in parentheses) are clustered at the regional level. Standard errors (in parentheses) are clustered at the regional level. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

**Table A5. Mechanisms**

| VARIABLES       | (1)<br>Civil Disobedience | (2)<br>Bribe for document | (3)<br>Bribe police |
|-----------------|---------------------------|---------------------------|---------------------|
| Remit (0,1)     | 0.141***<br>(0.024)       | 0.121***<br>(0.014)       | 0.106***<br>(0.016) |
| Remit (0,1)*ISI | −0.020**<br>(0.009)       |                           |                     |
| Observations    | 114,882                   | 57,728                    | 44,206              |
| R-squared       | 0.059                     | 0.088                     | 0.105               |
| Controls        | Yes                       | Yes                       | Yes                 |
| Country FE      | Yes                       | Yes                       | Yes                 |
| Survey Wave FE  | Yes                       | Yes                       | Yes                 |
| Survey rounds   | 4,6,7                     | 4,6,7                     | 4,6,7               |

*Notes:* Controls include the respondent's levels of education, employment status, lived poverty index, incumbency support index, crime victimization index, age, gender (a male dummy), and local public goods index. Standard errors (in parentheses) are clustered at the regional level. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .