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- ▶ **Migration, Political Institutions, and Social Networks**
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Migration, Political Institutions, and Social Networks*

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Abstract

What is the role of international migrants and, specifically, migrant networks in shaping political attitudes and behavior in migrant sending countries? Our theoretical framework proposes that migration might change individual social identities and thus stimulate intrinsic motivation for political participation, while it may also improve knowledge about better quality political institutions. Hence, international migration might increase political awareness and participation both by migrants and by other individuals in their networks. To test this hypothesis, we use detailed data on different migrant networks (geographic, kinship, and chatting networks), as well as several different measures of political participation and electoral knowledge (self-reports, behavioral, and actual voting measures). These data were purposely collected around the time of the 2009 elections in Mozambique, a country with substantial emigration to neighboring countries – especially South Africa - and with one of the lowest political participation rates in the region. The empirical results show that the number of migrants an individual is in close contact with via regular chatting significantly increases political participation of residents in that village – more so than family links to migrants. Our findings are consistent with both improved knowledge about political processes and increased intrinsic motivation for political participation being transmitted through migrant networks. These results are robust to controlling for self-selection into migration as well as endogenous network formation. Our work is relevant for the many contexts of South-South migration where both countries of origin and destination are recent democracies. It shows that even in this context there may be domestic gains arising from international emigration.

Keywords: International migration, social networks, political participation, information, diffusion of political norms, governance.

JEL Codes: D72; D83; F22; O15.

1. Introduction

The economic importance of international migration has been increasing steadily in the recent decades. Not only has the number of labor migrants increased massively, but also the financial flows generated by these migrants have been rising rapidly, often surpassing the national budgets of many developing countries.¹ As a result, the strand of economics literature that examines the potentially positive effects of emigration on the economic development of origin countries has been growing. It highlights that the positive effects of emigration on economic development may happen as a result of a number of mechanisms such as overcoming liquidity constraints through remittances, promoting human capital accumulation and entrepreneurship, and increasing foreign direct investment and international trade.² While the importance of good political institutions for economic development is by now well established, as influentially described by Acemoglu, Johnson, and Robinson (2005), one area that has deserved relatively less attention in the economics literature is the relationship between international migration and the quality of political institutions in countries of migrant origin.³

The main objective of this paper is to make a specific contribution to this literature by examining in detail different mechanisms through which international migration may play a role in the diffusion of improved political attitudes and behavior of those left behind. For this purpose, we make use of a number of different measures of political participation (namely self-reports, behavioral and actual measures of political behavior), and of different types of migrant social networks (geographical, kinship, and chatting networks).

We start by proposing a theoretical framework where migration might change individual social identities and in this way intrinsic motivation for political participation, while it may also improve information and knowledge about better quality political institutions. Through these mechanisms, international migration might increase political awareness and participation. This effect

¹ World Bank (2018) *“Moving for Prosperity – Global Migration and Labor Markets”*.

² Edwards and Ureta (2003) and Yang (2008) described how remittances may provide the financial resources to overcome credit constraints in migrant sending countries. Furthermore, return migration may bring not only financial resources, but also human capital, which can promote entrepreneurship and economic growth, as in Mesnard and Ravallion (2006) and Batista et al. (2017). Migrant networks may also foster increased Foreign Direct Investment (FDI) and international trade, as found by Gould (1994), Rauch and Trindade (2002), Kugler and Rapoport (2007) or Javorcik et al. (2011). An additional possibility empirically examined and supported by Beine et al. (2008) and Batista et al. (2012) is the “brain gain” hypothesis put forward by Mountford (1997) and Stark et al. (1997, 1998), according to which the simple prospect of emigration can promote human capital accumulation in migrant origin countries.

³ Throughout this paper, we define the quality of political institutions as combining compliance to the electoral principle of democracy where rulers are made responsive to citizens through periodic elections, together with compliance to the participatory principle that can be summarized as active participation by citizens in all political processes - including not only elections, but also other forms of political engagement, as described by Coppedge et al. (2016).

may not only influence migrants themselves, but also trigger peer effects - thus impacting the social network of current and return migrants in their country of origin.

In order to evaluate whether international migration may foster political participation, and examine the importance of different types of migrant networks in this transmission process, we exploit data from nationally representative household surveys conducted immediately before and after the 2009 national elections in Mozambique. These elections followed the lowest election turnout ever in Mozambique in 2004 (36% according to official numbers), which was also the lowest among all SADC countries. Because Mozambique is a country with substantial emigration to neighboring countries (especially to South Africa), this therefore seems like an ideal context in which to study the role of the increasingly important but relatively understudied South-South migration in transmitting norms in a context of imperfect democracies.

Our empirical analysis investigates whether an individual who is connected to one or more international migrants is affected differently in terms of his/her political attitudes and behavior depending on the characteristics of these connections. To evaluate in detail the different diffusion mechanisms of information and political attitudes through international migrant networks, we use different migrant network measures. Specifically, we distinguish between *migrant geographical networks*, i.e. how many households with at least one migrant in the family exist in the respondent's village; *migrant kinship networks*, i.e. the number of migrant households that are related by family links to the respondent; and *migrant chatting networks*, i.e. the number of migrant households the respondent regularly chats with. In order to test our theoretical hypotheses, this paper uses several survey and behavioral measures related to political participation and electoral knowledge – namely, self-reported voting behavior; a measure of actual voter turnout; a measure of electoral information; and a behavioral measure reflecting the respondents' intrinsic motivation for political participation.

For the purpose of investigating the relationship between migrant social networks and political attitudes and behavior, we estimate a Linear Probability Model (LPM), controlling for individual, household, and location characteristics. Because international migration may potentially be correlated with political attitudes via unobserved factors that cannot be controlled for in our regressions, we also conduct Two-Stage Least Squares (2SLS) regressions that exploit 'quasi-natural experiments' given by the history of natural catastrophes that may plausibly have exogenously created migration flows. In addition, acknowledging the possibility of endogenous migrant network formation, particularly in the cases of chatting and kinship, we use secondary network links ("friends of friends" in the case of chatting networks) as an exclusion restriction to limit the potential correlation between the characteristics of individuals in Mozambique and the migrants in their networks.

The empirical results we obtain suggest that political participation can be learned and valued more highly when people migrate to countries with better quality political institutions, and that the

newly obtained political participation norms may be passed on to peers. We confirm existing results on the positive effects of living close to migrant households on political engagement – for example, Batista and Vicente (2011) for Cape Verde. In addition, we find that increased political participation during elections seems to be mainly driven through contact with migrant households via regular chatting, rather than via family links to migrants. The evidence we examine is consistent with both information transmission and changed social norms for political participation via chatting with migrants. Family links seem to convey some information about the political process, but do not seem to significantly affect intrinsic motivation for political participation. Our findings are robust to endogeneity concerns about unobservable self-selection of migrants and endogenous network formation.

The remainder of the paper is organized as follows. Section 2 presents a broad literature review on the relationship between international emigration and political remittances, and the original contribution of this paper. Section 3 proposes a theoretical framework to describe different ways through which migratory experiences may influence political behavior. Section 4 describes the country context under which the empirical part of this study was carried out. Next, section 5 puts forward an econometric model and estimation strategy for the effects of interest. Section 6 follows with an introduction to the dataset and its descriptive statistics. Finally, section 7 presents the empirical results of the LPM and 2SLS estimations and robustness tests, and section 8 concludes.

2. Literature Review

The economic, political and social importance of financial remittances sent by migrants to their home countries has by now been well-established and the focus of a large body of literature.⁴ It has only been more recently that social scientists have focused their attention on the impacts of “social remittances”. This designation was proposed by Levitt (1998) to emphasize that, in addition to financial remittances, migrants transfer new knowledge, practices, and norms to their countries of origin. Examples of social remittances that migrants may transfer back to their home countries are increased valuation of education and health, fertility norms, improved organizational skills and entrepreneurship, and higher demand for political accountability.

The question of whether international migration improves the quality of the domestic political system in the migrant countries of origin is related to the traditional ‘brain drain’ debate put forward by Gruber and Scott (1966) and Baghwati and Hamada (1974). Indeed, emigration has been traditionally regarded as hurting the supply of well-prepared individuals who can directly supply political services if those who leave are the best qualified to provide these services. In addition, the

⁴ Brown and Jimenez-Soto (2015) provide a recent overview.

political system would also be negatively affected if emigration acts as a “safety valve” or “outside option” that makes individuals unhappy with the political status quo to leave their home country thereby dampening the demand for better political institutions. This view follows Hirschman (1970)’s “exit” vs. “voice” dichotomy, according to which citizens unhappy with the domestic situation either choose to emigrate (exit) or to protest and contribute to political change (voice). In this setting emigration could be understood as a “safety valve”, which released protest intensity in the home political system and therefore reduced demand for political improvements.

One can however argue that emigration may improve political regimes in several ways: diaspora effects brought about by current emigrants may promote political change by influencing local authorities to increase governance (supply side), or by intensified contact of the domestic population with better institutions abroad thereby promoting a desire for greater accountability (demand side); return emigrants experiencing an enriching environment abroad may also improve the quality of the domestic governments upon return by direct participation in the political system (supply side), or by bringing increased awareness and demand for political accountability (demand side).

The question of how emigration affects the quality of domestic politics is therefore an empirical question. This paper focuses specifically on examining the demand side of the political system by studying the impact of migrant networks on the political attitudes and behavior of those left behind.

Levitt (1998)’s notion of “social remittances” has been followed by a large number of contributions in demography, economics, political science, and sociology illustrating how migration can change political attitudes and behavior in countries of origin.⁵ Initial contributions, such as Kapur and McHale (2005) or Kapur (2010), highlighted the promise of social remittances as tools for economic development of countries of migrant origin. Most early contributions studying how emigration has changed politics in countries of origin focused on the case of Mexico. Electoral outcomes were often described as more aligned with democratic values in high emigration areas, although political engagement and public good provision were observed to be affected positively or negatively depending on the specifics of the analysis.⁶

Spilimbergo (2009) conducted one of the first cross-country quantitative studies on the effects of migration on democratization by examining the impact of foreign education acquired in democratic countries on fostering democracy in student origin countries. He showed that migration may promote

⁵ The concept of social remittances is necessarily grounded on the assumption that migrants assimilate social norms of the countries of destination. Evidence that migrants assimilate political norms in their host countries of migration is provided by Careja and Emmenegger (2012) and Chauvet et al. (2016) for very different contexts – respectively, Central and Eastern Europe, and Mali.

⁶ See, for example, Burgess (2005); Goodman and Hiskey (2008); Perez-Armendariz and Crow (2010); Aparicio and Meseguer (2012); Pfitze (2012).

democracy, but left the question unanswered as to which specific mechanisms underlie this effect. Docquier et al. (2016) presented cross-country evidence of the positive impact of unskilled emigration from developing countries to OECD countries on the institutional quality of origin countries by using aggregate measures of democracy and economic freedom. The authors found significant institutional gains from the “brain drain” over the long run after considering incentive effects on human capital formation. They attribute these effects to an increase in the exposure of home country population to democratic values and norms. In a related study, Beine and Sekkat (2013) find suggestive cross-country evidence that the transmission of political norms seems to be stronger when emigrants are more educated. Lodigiani and Salomone (2016) describe how international migration to countries with higher female parliamentary participation has a positive and significant effect on the female parliamentary share at origin.

A related branch of literature has focused on the relation between financial remittances and political variables, and how these seem to be strongly correlated. O'Mahony (2013) shows that migrant remittances increase in election years particularly when elections are more contested and the home country poorer. Ahmad (2012, 2013) provide evidence that migrant remittances may deter political change, particularly in autocratic regimes, although this effect may be counteracted by remittances being used to pay for private forms of local public goods - which may reduce the effectiveness of state patronage, and in this way promote political change (Adida and Girod, 2011; Doyle, 2015; Pfutze, 2014; Tyburski, 2012).

Finally, related recent contributions (for example, Miller and Peters, 2018; Peters and Miller, 2018) emphasize the role of emigration in reducing violent conflict – while showing that emigration to countries with better institutions may increase the more effective non-violent demand for political change, consistent with our results.

Most of the earlier empirical contributions use aggregate macroeconomic data and explore cross-country variation. For this reason, they cannot distinguish between supply and demand forces, nor capture in detail the mechanisms underlying the effects they identify. Batista and Vicente (2011) provided the first study to use both household-level survey and behavioral data from a voting experiment to examine the differential effects of return and current migrants, while also distinguishing between the impact of different countries of destination with varying degrees of governance. They found stronger results for the impact of return migrants - a result later corroborated by Chauvet and Mercier (2014), Mercier (2016), and Tuccio et. al. (2018) which emphasized the role of return migration in promoting political participation and electoral competitiveness in various countries of migrant origin. Batista and Vicente (2011) also showed how improved levels of governance in different host countries (namely the United States relative to Portugal) positively influenced the magnitude of the migratory impact on demand for more political accountability.

Barsbai et al. (2017) also support these findings by exploiting community and individual-level data from Moldova, as well as migration patterns to countries with different political regimes. In particular, they find that exposure to Western democratic values and norms promoted political change in municipalities with a higher number of emigrants. While the approach by Batista and Vicente (2011) is innovative in the sense that it employs behavioral data, and points towards return migration from countries with better quality institutions as the driving force for the effect of emigration on political attitudes and behavior in countries of origin, it cannot explain how individual-level relationships with migrants affect the demand for better political institutions.

A different strand of literature focuses precisely on the diffusion of political values through social networks. Fafchamps and Vicente (2013) and Fafchamps, Vaz, and Vicente (2017) show that increasing the political literacy of experiment participants changed perceptions and electoral behavior, respectively, for those participants with more network connections, even if they were not directly targeted by the literacy campaign. Giné and Mansuri (2011) relate closely to this idea as they find positive spillover effects of an awareness campaign in Pakistan on female voter turnout. Similarly, Nickerson (2008) finds that about 60% of the propensity to vote is passed on to another household member in a randomized controlled trial in the United States. These findings suggest that norms about political participation are adopted and passed on to peers.

Our paper contributes to the existing literature in at least three different ways. First, our work innovates by examining the diffusion of political norms and information about electoral processes through different types of migrant networks – which we measure using detailed data on geographical networks, kinship networks and chatting networks. More generally, our paper contributes by using a variety of political participation measures (self-reports, behavioral and actual voting measures) showing that stronger links with international emigrants increase the likelihood of domestic political participation by those left-behind. Finally, we contribute by studying the case of Mozambique, a country with substantial South-South emigration, almost exclusively to other sub-Saharan African countries. This is a setting where both migrant countries of origin and destination are imperfect democracies, and where the empirical question of whether migrants can transfer improved political norms is not trivial or captured by the existing literature.

3. Theoretical Framework

Political participation is traditionally modeled as the outcome of an expected cost-benefit analysis.⁷ An individual's benefit from political participation is defined as the expected utility derived from the outcome of a political process, and from an individual's intrinsic motivation. The cost of

⁷ See Dillon and Peralta (2002) for a detailed description.

casting a vote can be broadly thought of as including the opportunity cost of going to the local polling station or the cost to obtain the necessary information about election candidates. An individual j can thus be thought of as maximizing the following expected utility function

$$\max_{x_j} E_{\Omega_j} U \left(G(x_j, x_{-j}), I_j(x_j; P_{c_j}) \right) - cost(x_j) \quad (2.1.)$$

where the outcome of a political process is described by the function $G(x_j, x_{-j})$, x_j is the action vector of individual j , and x_{-j} reflects the combined action of all individuals other than j ; I_j is individual j 's intrinsic motivation; P_{c_j} is individual j 's prescribed behavior given his assignment to social category c_j ; Ω_j is the information set available to individual j ; and $cost(x_j)$ is the cost for individual j of taking action x_j . Note that in this framework own actions and actions taken by others do not enter the utility function directly as, for example, casting a vote might not necessarily directly impact one's utility. The individual maximizes its net expected utility of taking a certain action given the actions of everybody else.

We define intrinsic motivation through an individual's identity, following Akerlof and Kranton (2000). For this purpose, let there be a set of social categories \mathbf{C} .⁸ An individual j assigns himself to one of these categories, c_j , given his characteristics, ε_j . The determining characteristics that we take as drivers of political behavior through identity, and are thus relevant in the context of this paper, are an individual's gender, age, income, and most importantly for our case the society (which can be summarized by the geographical location) this individual lives in. Note that individual self-assignment may be unconscious, and differ from the social category others might assign an individual to. Each individual furthermore has a notion about the social categories of all other individuals, c_{-j} .⁹

Whether or not an individual derives utility gains or losses from intrinsic motivation is determined by the individual's actions, x_j , and whether or not these actions are according to the prescriptions P_{c_j} associated with the individual's social category c_j . We can think of these prescriptions as widely accepted norms that individuals follow to maintain their self-image. In the context of political participation, the impact of intrinsic motivation can be illustrated by the following example: in a society where casting a vote is the social norm, an individual might decide to vote despite no direct expected net benefits from it, as he derives intrinsic motivation utility gains by acting according with the social norms.

In this context, the set of prescriptions P_{c_j} can be described as:

⁸ A social category could be gender or ethnic group, though our model allows for more complex or narrower definitions of a social category.

⁹ Being able to classify others in a social category (or box) helps an individual to interpret the behavior of others as appropriate or not, and copy behavioral patterns of peers belonging to the same social category.

$$P_{c_j} = P(x_{-j}; c_j(\varepsilon_j))$$

where prescriptions P_{c_j} , that determine an individual's behavior, firstly depend on the social category c_j individual j attributes himself to. Belonging to this social category itself depends on characteristics ε_j of individual j , such as his geographical location. Prescriptions also depend on the actions of others, x_{-j} , to the extent that they reflect the behavior of other individuals perceived as belonging to the same social category and in this way, establish the prescribed standard of social norms.

The solution to the expected utility maximization problem (2.1.) yields that the individual's expected marginal payoff from political participation has to be at least as high as the marginal cost of action.

$$E_{\Omega_j} U'_{x_j} \left(G(x_j, x_{-j}), I_j(x_j; \mathbf{P}_{c_j}) \right) = \text{cost}'_{x_j}(x_j) \quad (2.2.)$$

The theoretical framework just described allows us to examine two distinct channels through which migration may affect political behavior: a change in an individual's identity and thereby intrinsic motivation for political action, and a learning mechanism based on increased knowledge about political processes.

An individual that emigrates becomes exposed to a different environment. This change in surroundings affects the migrant's social category self-assignment, as it depends on the individual location. As the prescribed behavior \mathbf{P}_{c_j} depends on individual j 's social category, the individual faces different prescriptions after emigration. To avoid net utility losses, the individual migrant should update her political behavior x_j accordingly. This direct impact of migration on x_j may be thought of as what happens when an individual migrates and adopts different standards of political behavior – while he is still abroad or upon return to the home country.

A second more indirect effect of migration on political behavior may happen through the actions of others, independently of own migratory experiences. This effect may happen if peers in individual j 's network have migratory experience and their changed behavior is relevant to define \mathbf{P}_{c_j} . As prescriptions are influenced by peers' actions, our framework predicts that migration can in this way change the behavior of non-migrants indirectly. This is the case if the opinion of peers, mirrored in their actions, has enough weight within a social category to influence existing prescriptions.

The second channel through which migration may affect political behavior is through learning about political processes. If migration changes the information set Ω_j available to an individual j (for example by learning about democratic processes in the host country and their value), potentially increasing the value of political participation, the net marginal benefit of voting may increase and lead to more active political participation. The same effect may take place through the migratory experiences of peers that are a part of individual j 's social network, and which can contribute to

enlarging this individual's information set Ω_j , and in this way contribute to changing political participation of individual j residing in the country of origin.

4. Country Context: Mozambique

This study examines migration between Mozambique, and (to a large extent) its neighboring African countries such as South Africa, Malawi, and Tanzania. Mozambique is considered to be one of the poorest countries in the world with a GNI per capita of only 1.140\$PPP in 2014. Despite its high growth rates of 7.14% on average between 2000 and 2014, Mozambique is still ranked 178 out of 187 countries in the Human Development Index.¹⁰ For many years, Mozambique has been an aid-dependent country. In 2013, for example, the country received official development assistance of almost 15% of its GNI (US\$2.3b).¹¹

The majority of the Mozambican population, around 78% in 2009,¹² is directly dependent on agriculture. Climate change is a major threat to these livelihoods as Mozambique is exposed to extreme weather events that have often affected several dozens of thousands of people in the last two decades.¹³ The international donor community generally heavily supports emergency relief and rehabilitation programs in response to natural disasters, replacing the role of the Mozambican government to a large extent, as the Mozambican government does not have the necessary resources for disaster relief. This situation is particularly well documented since 2000.¹⁴

As a consequence, Mozambique has been an emigration country for a long time. Large migratory movements from Mozambique were traditionally labor-driven mainly from the southern Mozambican provinces to South African mines and commercial farms. In 2013, (formal) migrant remittances flows contributed towards GDP with 1.4% with inflows of approximately US\$217 million.¹⁵ According to estimates provided by the World Bank (2011),¹⁶ the stock of Mozambican emigrants in 2010 was 1.2 million, or 5% of the resident population.¹⁷ According to this nationally representative statistics, the main international destinations of Mozambican current emigrants in 2010 were South

¹⁰ World Development Indicators (2015), World Bank.

¹¹ World Development Indicators (2015), World Bank.

¹² International Labour Organization, ILOSTAT database.

¹³ Red Cross Mozambique (2013).

¹⁴ In 2000, for example, a major flood hit the country and Mozambican President Chissano recognized in front of reporters that international aid was arriving very slowly to assist the victims of the flooding as reported in the Southern African Research and Documentation Centre's report in May 2000. Information available from <http://reliefweb.int/report/mozambique/mozambique-natural-disasters-floods>, last accessed on August 30, 2017.

¹⁵ World Development Indicators (2015), World Bank.

¹⁶ World Bank Migration and Remittances Factbook (2011), Second Edition. Washington, DC: World Bank. Available at <https://openknowledge.worldbank.org/handle/10986/23743>

¹⁷ This is consistent with the large prevalence of migration evident in our survey, as illustrated by Table 1.

Africa, Malawi, Zimbabwe, Tanzania, Portugal, Swaziland, the United Kingdom, Germany, the United States, and Spain.¹⁸

Historically, after its independence from Portugal in 1975, as a result of ten years of war, Mozambique was led by the independence movement FRELIMO (Frente de Libertação de Moçambique) under a single-party, socialist regime. Only two years after independence had been negotiated, a civil war erupted between FRELIMO and RENAMO (Resistência Nacional Moçambicana) that created large refugee movements to neighboring countries. With the end of the cold war, and the collapse of apartheid in South Africa, FRELIMO and RENAMO started negotiations that resulted in a new constitution allowing for a multi-party system, and a peace treaty signed in 1992. The newly established peace encouraged many of the refugees to return to their homes in Mozambique.

After the peace treaty, presidential and parliamentary elections were held in 1994, 1999, 2004, 2009, and 2014. FRELIMO won all these elections by a large margin and increased its vote share consistently. Across all national elections, electoral irregularities (mainly claimed by RENAMO, but also confirmed by international observers) had significant consequences for the overall results. The 2009 elections, the time around which our data has been collected, are considered to have followed international standards, despite small irregularities. Both Armando Guebuza, the Mozambican president from 2005 until 2015, and FRELIMO were elected unambiguously by 75% in 2009.

A variety of sources considers that the quality of democracy in Mozambique is imperfect. The V-DEM Electoral Democracy Index¹⁹ was 1.89 for Mozambique in 2009, and 3.06 for South Africa, for example - a substantial statistically significant difference showing the potential for Mozambican migrants to South Africa to adopt political norms that are an improvement, in this sense, to those prevalent in their home country. Consistently with the V-DEM scores, Mozambique's political system is scored as 5 by the Polity IV index,²⁰ and classified as an "open anocracy" from 2009 until 2017. South Africa, in contrast, was scored as 9 and classified as a "democracy" over the same time period. The Freedom House's Index of Freedom in the World currently classifies Mozambique as a "partly free country" where citizens generally show difficulties in grasping the importance of democracy, with a score of 52/100, whereas South Africa scores 78/100 and is considered a "free country". Finally, the

¹⁸ This is reflected in our survey data where around 87% of emigrants went to South Africa as displayed in Table 2.

¹⁹ The V-DEM Electoral Democracy Index measures the extent to which the rulers are "responsive to citizens, achieved through electoral competition for the electorate's approval under circumstances when suffrage is extensive; political and civil society organizations can operate freely; elections are clean and not marred by fraud or systematic irregularities; and elections affect the composition of the chief executive of the country". See Coppedge et al. (2016) for additional detail.

²⁰ The Polity IV index classifies levels of democracy based on an evaluation of the competitiveness and openness of elections, the nature of political participation, and the extent of checks on executive authority. For each year and country, a "Polity Score" is determined which ranges from -10 to +10, with -10 to -6 corresponding to autocracies, -5 to 5 corresponding to anocracies, and 6 to 10 to democracies.

Economist Intelligence Unit's (EIU) Democracy Index²¹ ranks Mozambique 115 (out of 167), and classifies its political system as a "hybrid regime" (bordering the classification as an "authoritarian regime"). South Africa, in comparison, ranks 41 and is classified as a "flawed democracy" similar to the United States or Japan. Overall, these different measures point to the quality of democracy being generally low in Mozambique, and significantly lower than in South Africa.

Political participation is most closely related to the type of political attitudes and behavior we measure in our paper, and proxies for the type of political norms that Mozambican migrants may learn about while abroad and potentially transmit through their social networks. Two different indices confirm that Mozambican emigrants may experience improved political participation in South Africa relative to their home country. In 2009, the V-DEM Participatory Democracy Index²² for Mozambique was 1.19 and for South Africa was 2.10, a substantial statistically significant difference. We should note, however, that this gap is lower than that observed when simply comparing the more general V-DEM Electoral Democracy Index. The partial EUI political participation index²³ awards Mozambique 5 out of 10 points, whereas South Africa scores 8.33 - the highest ranked country, Norway, scores 10.00. The evidence we find on the role of international migrant networks in transmitting attitudes and behavior related to political participation suggests that it is in this sense that emigration might be a promoter of broader democracy at home.

5. Empirical Strategy

To test our hypotheses, we build an econometric model based on the theoretical framework described in Section 2. The relationship between emigration and political behavior is estimated for different outcome variables that reflect a respondent's political participation. Political participation can be estimated using the following latent variable model:

$$V_i = 1(V_i^* \geq 0) \quad (5.1)$$

$$V_i^* = \alpha + \beta \sum Network_{ij} * mig_{HH_j} + \delta X_i + \varepsilon_i \quad (5.2)$$

According to this model, the respondent will vote (or be politically active) if the net expected benefit from voting, V_i^* , is non-negative. This net expected benefit is influenced by the links with

²¹ The EIU Democracy Index is constructed based on 5 pillars: electoral process and pluralism, functioning of government, political participation, political culture and civil liberties.

²² The V-DEM Participatory Democracy Index "embodies the values of direct rule and active participation by citizens in all political processes. While participation in elections counts toward this principle, it also emphasizes nonelectoral forms of political participation, such as civil society organizations and other forms of both nonelectoral and electoral mechanisms of direct democracy".

²³ Political participation is defined by voter turnout, autonomy and voice of minorities, participation of women in parliament, participation in political parties and NGOs, interest or engagement in politics, attendance of lawful demonstrations, adult literacy, interest in politics in news, and effort to promote political participation.

migrants in the respondent's network, $\sum Network_{ij} * mig_{HH_j}$, as well as by a vector of individual and geographic characteristics X_i . The number of links with migrants in an individual's social network is computed as the interaction between the directed link from individual i to individual j , and a dummy for the migration experience of household j . Note that we consider a household to be linked to itself. The variable $Network_{ij}$ indicates whether or not two respondents live in the same village, have a kinship relation, or regularly chat with each other, depending on the specific network type under evaluation – either the geographical, kinship or chatting network.

In addition, a vector of individual, household, and locality specific controls, X_i , determines the costs and benefits of political participation. This vector includes demographic controls that determine the identity of an individual such as gender, and age. To capture effects arising from an enlarged information set, this vector furthermore includes the levels of schooling completed, as well as the access to information provision (such as radio, television, or internet access). We also include province effects in all our specifications. We estimate our model by using a linear probability model. Standard errors are clustered at the village level.²⁴

5.1 Two Stage Least Squares Estimation

This paper aims at determining the differential impact of different types of network links with migrants on political behavior. The main threat to identification is that individual migration decisions may be correlated with individual political participation through unobservable factors that cannot be controlled for in our econometric analysis. If so, our network variable would capture the effect of being connected with more individuals with particular political attitudes rather than the effect of being connected with more individuals that have been exposed to a different political environment through international migration. This would imply a correlation between our explanatory variable and the regression error term. We might face an omitted variable bias if individuals that are less (or more) politically active opt to emigrate to another country more often than people that participate in politics more (or less) often. In the case of Mozambique, the overwhelming dominance of the ruling party and poor governance might affect people in their decision to leave the country.

To tackle this issue, we use a Two Stage Least Squares (2SLS) estimation approach.²⁵ We exploit the exogenous variation in the occurrence of natural catastrophes affecting harvests or cattle as sources of emigration. We make use of detailed data on natural disasters in Mozambique at the district level, allowing for large variation across EAs. In particular, we constructed an individual-level

²⁴ Our results are robust to the estimation of a probit model instead of the LPM.

²⁵ Our results are robust to the estimation of an IV probit model instead of the 2SLS model.

instrument by interacting the occurrence of droughts in the district of a respondent's village with her birthyear.²⁶

The instrumental variable for each respondent takes the value of the cumulative number of droughts in the three years prior to the respondent being 31 years old.²⁷ This instrument measures the intensity of droughts around the age at which household heads migrate. Especially in rural areas (the context of our study), harvests and cattle are often the livelihood of families, as there are almost no income sources from salaried work. We therefore expect the occurrence of a natural disaster to be highly correlated with an individual's decision to migrate in order to provide for her family. Our instrumental variable is highly correlated with household migration as natural disasters indeed significantly increase the pressure to emigrate in order to provide for the family back home. The reported F-statistics (shown in Tables 4 to 6) confirm our reasoning.

In the Mozambican context, weather shocks are unlikely to be correlated with political attitudes and behavior other than through migration. As described in the country context section, responses to natural disasters in Mozambique are provided by the international aid community as the Mozambican government has no resources to provide emergency relief programs.²⁸ We thus argue that our exclusion restriction fulfills the two necessary and sufficient criteria to be used as a valid instrumental variable.

The final instrument is constructed in two steps: We first interact the number of droughts a neighboring household was exposed to (in accordance with the above definition) with our binary indicator of whether a network link exists between our respondent and the respective household. Second, we sum all interaction terms within the respondent's respective enumeration area.

We estimate the following 2SLS model:

$$y_i = \alpha + \beta \sum \widehat{Network}_{ij} * mig_HH_j + \delta X_i + \varepsilon_i$$

$$\sum \widehat{Network}_{ij} * mig_HH_j = \alpha + \theta_2 \sum Network_{ij} * Exposure\ to\ Droughts_j + \delta X_i + \varepsilon_i$$

This specification takes the endogenous decision to migrate into account by replacing the migrant network connectivity of individual i with the predicted migrant network connectivity based on our proposed exclusion restriction. The vector X_i contains individual and geographic controls as stated before.

²⁶ The data used are from the UNDP (2013) DesInventar database.

²⁷ Our results are robust to the use of similar IVs constructed with different types of weather shocks as well as different age thresholds and time spans.

²⁸ In additional robustness checks, we used alternative drought shocks to instrument for migrant selection, and overidentifying restriction tests also lend support to exogeneity of the instrument. These results are available from the authors upon request.

A second endogeneity concern arises from how network links are being formed. As recognized by Manski (1993), it is possible that there is endogeneity in the formation of migrant networks in that unobserved characteristics of migrant households are likely correlated to those of households in their networks. In the context of our paper, if individuals are more likely to be friends (as is captured by our chatting network measure) with households with similar political attitudes, our explanatory variable would be correlated with the regression error term. Similarly, kinship relationships might be endogenous through marriage preferences based on political attitudes and behavior.

For this reason, following the strategy proposed by Bramoullé et al. (2009), we propose to use undirected secondary links to migrant households as an exclusion restriction to identify the effects of primary links to migrant households on the political outcomes we study. More specifically, we instrument the respective network indicator with second-degree links between households. We compute the adjacency matrix between all households within an enumeration area and replace our original network variable with a binary indicator equal to one if and only if, two households are connected with each other through a third household. By construction, this variable is highly correlated with the initial, direct network variable but is unlikely to be correlated to individual political participation decisions as the two households do not chat with (or marry) each other. The reported F-statistics (shown in Tables 4 to 6) confirm the strength of the constructed instrument.²⁹

We then interact the network link variable with the same instrumental variable on natural shocks on a household (head) level as in our primary specification. We proceed by constructing the final instrument as the sum of interactions between a binary indicator of the existence of a second-degree link and the neighboring household's exposure to droughts as before. The final IV is then the sum of the total number of natural shocks that occurred to household heads to which the respondent is connected with through secondary links.

This is reflected in the following 2SLS model:

$$\begin{aligned}
 y_i &= \alpha + \beta \sum \widehat{Network}_{ij} * mig_HH_j + \delta X_i + \varepsilon_i \\
 \sum \widehat{Network}_{ij} * mig_HH_j &= \\
 &= \alpha + \theta_2 \sum Second - Degree Link_{ij} * Exposure to Droughts_j + \delta X_i + \varepsilon_i
 \end{aligned}$$

This specification takes into account both the endogenous decision to migrate and the endogenous creation of networks by replacing the migrant network connectivity of individual i with the predicted migrant network connectivity based simultaneously on our exclusion restrictions

²⁹ In additional robustness checks, we used alternative drought shocks to instrument for migrant selection, and overidentifying restriction tests also lend support to exogeneity of the instrument. These results are available from the authors upon request.

regarding individual migration decisions and network formation. The vector X_i contains individual and geographic controls as stated before.

6. Data and Descriptive Statistics

The household survey data used in this paper was collected in Mozambique from mid-September until November 2009 by the CSAE at the University of Oxford. This timeframe corresponds to the period before and immediately after national elections took place. The data collected are nationally representative of the voting population of Mozambique that has mobile phone coverage. The fieldwork covered four out of the eleven provinces of the country (Cabo Delgado, Zambezia, Gaza, and Maputo-Province), and included 161 enumeration areas (EAs) and 1766 households. Both Cabo Delgado and Zambezia are located in the North of Mozambique, whereas Gaza and Maputo-Province are reflective of the Southern provinces of the country. During the 2007 census around 37 percent of the Mozambican population lived in these four provinces combined.

The sampling base we used was the 2004 electoral map of the country, and the EAs were polling station catchment areas. Because the use of cell phones was necessary for the construction of our behavioral political participation measure (which made use of cellphone text messages),³⁰ we eliminated from the sampling base all polling locations without cell phone coverage. For this purpose, we obtained detailed data from the two cell phone operators on the geographic location of each of their antennae. These were then plotted on a map using their geographical coordinates, with a 5-km coverage radius drawn around each antenna. All polling stations outside the covered area were dropped from the sampling base. In 2009, 60 percent of all polling stations in the country were covered by at least one operator.

From this sampling base, 161 polling locations were selected using two-stage clustered representative sampling on provinces, then on EAs. The number of registered voters per polling location is used as sampling weight. Since all registered voters in the sampling frame have the same probability of being sampled, the surveyed locations are nationally representative of the voting population of Mozambique that has mobile phone coverage.

During the baseline survey, in the event that we found no cell phone coverage in a selected location, we replaced it by the closest polling location with cell phone coverage. This happened in seven locations.

Sampling within each EA followed standard procedures for household representativeness: n^{th} house call by enumerators, starting from the polling station - typically a school located at the center of the EA. In each EA, approximately 11 households were interviewed. Our social network measures

³⁰ For a detailed description of this measure, see Section 5.2 below.

reflect the relationships between the household heads of each of these eleven households. Due to random sampling of households, our network measures are representative of the true, full social networks of each household within their EA.

Interviews at baseline were directed at the household head or his/her spouse. Interviews were conditional on having access to a cell phone for receiving and sending calls and messages. Respondents that did not own a cell phone but had access to one via a neighbor or family member nearby were included in the study. In each of the EAs, we conducted two face-to-face household surveys, one before the election, and one immediately after.

6.1 Descriptive Statistics

The importance and magnitude of international migration in Mozambique is reflected in Table 1, which illustrates the percentage of households with migrants in our sample. It shows that almost 33% of all households report having at least one migrant, and only 17.5% of households live in villages where no geographical neighbors ever migrated. Approximately 41% of households have a family member living in a different household than their own, that is currently or has been living abroad. This number increases slightly to around 48% of households that indicate to be regularly chatting with international migrant households.³¹

The migratory experiences in our dataset are mainly determined by emigration to South Africa, which accounts for about 87% of all destination countries. The other main migrant destinations are neighboring countries such as Tanzania, Zimbabwe, and Malawi.³² A detailed description of the frequency of different destination countries can be found in Table 2.

Almost half of our sample is composed of women, and the average age is approximately 38 years as shown in Table 3. The education a respondent received is rather limited with approximately six years of schooling on average (primary education).

³¹ Given that the average number of individuals per household in our sample is 5.87, the 5% national emigration rate provided by the World Bank Migration and Remittances Factbook (2011) seems rather consistent, although slightly higher, than the numbers obtained in our survey, where there were 0.21 current emigrants per surveyed household (the national emigration rate would imply 0.29 migrants per household). This slight undercount (0.08 missing migrants per household) is understandable in light of the method used to identify current migrants: only spouses and children of the household head were included in our dataset. This implies that we do not include any migrants that left with their whole families. But given that about 90% of emigration is to South Africa and that this is mostly circular migration, our method of identifying migrants does not seem to induce large undercounts. Moreover, because our objective in this paper is to measure the impact of emigration on domestic politics via contact with migrants, our survey's undercount does not seem problematic as the emigrants underrepresented are those less likely to keep active contact with their home country.

³² This distribution is consistent with information from the World Bank Migration and Remittances Factbook (2011), and from census data on Mozambican emigrants for South Africa (8.6% sample of 2011 census), Malawi (10% sample of 2008 census), Tanzania (10% sample of 2012 census), and Portugal (5% sample of 2011 census) from IPUMS (2018). Minnesota Population Center. Integrated Public Use Microdata Series, International: Version 7.0. Minneapolis, MN: IPUMS, 2018. <https://doi.org/10.18128/D020.V7.0>

6.2 Detailed Description of Main Variables of Interest

Our main outcome variable of interest is the respondents' actual voting during the 2009 national elections. We furthermore complement our analysis by using self-reported voter turnout, an additional measure that corrects self-reported voting for learning about electoral processes, and an alternative behavioral measure reflecting the experimental subjects' intrinsic desire to communicate their own policy priorities.

Actual Voting Measure

To obtain a measure more closely related to actual voting behavior, as opposed to simply limiting ourselves to analyzing self-reported voting behavior from the survey, we followed individuals through the 2009 elections and asked them to show us the finger that was inked after having voted. If the interviewer observed a correctly inked finger (i.e. respondents correctly identified the finger that was inked after having voted and the ink was still observable to the interviewer), we interpret this proxy as the respondent having actually voted. Table 3 shows that almost 30% of household heads voted in the 2009 elections as proxied by this outcome measure.³³

Migrant networks might influence actual voting behavior as the contact with migrants may change respondents' political participation, namely through the combined mechanisms proposed by our theoretical framework.

Self-Reported Voting Measure

We also use a standard survey question on whether the respondent reported having voted. Almost 91% of the respondents in our sample claimed to have voted during the 2009 elections. The contrast with our actual voting measure suggests a strong conformity bias where many respondents report to have voted without having done so.

Migrant networks might influence self-reported voting behavior as the contact with migrants may change respondents' attitudes towards political participation – although not necessarily their actions. In particular, and in line with our theoretical framework, self-reports of voting may be higher for migrant connected respondents since they may be better informed about the importance of political participation, and hence value it more and understand it as desirable behavior – even if this improved information did not create a strong enough net benefit to make our respondents actually vote.

³³ This participation rate is actually lower than 44%, which is the participation rate reported by the Mozambican electoral authorities using official electoral data. This has probably to do with the fact that our field team could not visit all households immediately after the election, and that the ink could have washed out over that time interval. The lag between our visit and the election was not systematically related to prevalence of migration, so that this underestimation of actual voting is not likely to affect our analysis.

Learning-Corrected Self-Reported Voting Measure

We furthermore make use of one more measure of self-reported voting, conditional on the respondents not only reporting to have voted, but also being able to show the correct finger that was inked after voting - even if the interviewers could not observe ink stains anymore. This measure includes 85% of the respondents in our sample as shown in Table 3. We take this measure as a proxy for information about voting procedures, which can be understood in the context of our study. Indeed, the data collection was conducted in rural areas where individuals live relatively close to each other in village settings. As the ink stain will be visible on those individuals that voted for several days (even after washing their hands), individuals that are in close contact with individuals who voted (which is more likely to happen in migrant households) will see more inked fingers, likely ask about the reason why this finger was inked, and hence learn about the finger inking procedure after voting. We propose that this form of contact will lead to an increase in knowledge about electoral processes, even if the individuals in our sample had no interest in learning about voting procedures or in actually voting. Of course, this is an imperfect measure of information about electoral processes, as it is only one detail about voting procedures. But the fact that 85% of respondents could indicate the right finger (significantly above the 50% one would get if answers were given at random), when only 29% of respondents had their finger actually inked, indicates that this measure conveys valid information.

In line with our theoretical framework, a closer connection with migrants may act as an information transmission channel - not only about the importance of political participation, but also about the electoral process itself. If respondents most tightly connected with migrants, differentially self-report not only to vote more often, but are also able to correctly show the inked finger, we can take this evidence as suggestive that migration is acting as an information channel emphasizing not only the importance of casting a vote (as otherwise individuals should not feel the need to misreport actual voting behavior), but also specific details about the electoral process.

Behavioral Political Participation Measure

Finally, we also conducted a simple behavioral experiment with our survey respondents. We proposed respondents the option to send cell phone text messages suggesting policy priorities for the president-elect's mandate. These suggestions would be forwarded to an independent Mozambican newspaper that would in turn publicize these suggestions, namely to the president-elect himself. This promise was made credible by the public official support of the newspaper to this initiative. Note that since sending a SMS message entails a small direct cost,³⁴ our measure is a costly action, which we

³⁴ The cost of sending a text message is small in the sense that it is not high enough to imply financial constraints to political participation for respondents. There is also the time cost of taking the action itself.

interpret as an incentive-compatible measure of political participation.³⁵ As shown in Table 3, 18% of respondents sent SMS messages with their policy priority requests.

This measure helps isolating the respondents' intrinsic motivation for political participation as the result of having migrants in their networks – as highlighted by our theoretical framework. Since experimental subjects were invited to send policy suggestions about any topic of their interest,³⁶ we interpret an increase in the likelihood of sending a text message as a higher desire to participate in the design of the government's political agenda and thus increased intrinsic motivation for political participation.

International Migrant Networks

A household is considered an international migrant household if at least one of the household members is currently living or has ever lived outside of Mozambique for at least six months.³⁷

To obtain the number of migrants an individual is connected with through her social network, we interact this migration variable with the network links across all households within one enumeration area.

Our migrant network variables allow us to distinguish between network effects according to the social proximity of two survey respondents. This means that we not only evaluate the overall number of links with migrant households in a respondent's geographical network (i.e. within the same EA), but also, most innovatively, the number of migrant households in an individual's chatting and kinship network.

A chatting link is recorded if a respondent indicates to regularly talk with another respondent.³⁸ Note that the surveys were conducted in a rural setting and all respondents live in the same village. This implies that individuals normally chat personally with each other rather than through any intermediary platforms.

We calculate kinship links in the same way if some individual reports to be related to another respondent or members of her household by family links.³⁹

³⁵ We were able to identify the individual survey respondents that sent messages through cell-number matching. This matching was easy to achieve since participation in this study was conditional on having access to a cellphone as discussed above.

³⁶ The policy priorities suggested were not linked to interventions related with government responses to natural disasters. This further supports our argument about the exogeneity of our natural disaster exclusion restriction.

³⁷ This definition of migrant household includes the household head: if he/she has ever lived outside of Mozambique for at least six months, his/her household will be considered a household migrant.

³⁸ The exact phrasing of the survey question used to define a chatting link was "How frequently do you calmly chat about the day events with the following individuals or members of their households? Not at all, sometimes, or frequently". We considered a link existed when the individual answered "sometimes" or "frequently".

³⁹ A kinship link between two households exists if the following question was responded positively: "Are the following individuals or members of their household relatives of yours, i.e. members of your family? Yes-No".

We allow for this link to be directed, i.e. a one-sided existence of a link is sufficient, as our theoretical framework suggests that the conception of social categories is subjective, and need not be consistent across individuals.

The degree of connectedness with migrant households of a specific respondent is calculated according to each network's link classification as the total number of migrant households the respondent is connected to. Table 1 illustrates the distribution of network connectivity in our sample. Around 32% of all households are classified as being a migrant household. Only 17.5% of respondents live in a village where not a single household has a household member that is currently living or ever has lived abroad. This number changes dramatically considering kinship and chatting networks. Around 43% of respondents have kinship links to at least one migrant household and approximately 48% of respondents regularly chat to migrant household members.

7. Empirical Results

In this section, we summarize the main empirical results. We first discuss the evidence on the relationship between geographical proximity to migrants and voting behavior. The subsequent subsections go further in detailing how kinship and chatting relations with migrants may contribute to explaining the results obtained for geographical networks.

7.1 Geographical Proximity

The existing evidence on the role of international migration in shaping political attitudes and behavior, including our own theoretical framework, suggests that a higher number of migrants within a village should increase the political participation of others living in the same village. Under our hypothesis that migration increases the benefits of political participation and creates positive spillover effects, we would expect a positive effect of geographical migrant networks on voting behavior. This positive effect would be the result of Mozambican migrant destinations being mainly countries with a higher democracy index, and higher political participation.⁴⁰

As shown in Table 4a, the empirical estimates obtained are in line with our theoretical predictions. Columns (1) and (2) of Table 4a show a positive and highly significant increase of between 2.2 pp and 2.5 pp in the probability of actual voting per additional migrant household in the village according to a simple LPM. Column (3) of Table 4a reports the same estimated effect after controlling for the endogeneity of the decision of peers in the same village to migrate. The 2SLS estimates confirm the LPM results, and somewhat increase the magnitude of the estimated coefficient: one more migrant household in a village increases the likelihood to vote in that village by 3.4 pp. Overall these

⁴⁰ According to the various sources described in section 4, and despite the fact that the better political norms at destination being generally considered imperfect.

empirical results support the theoretical prediction of our framework and past findings in the literature that migrant geographic networks promote political participation.

Note that this positive result does not hold as clearly when analyzing self-reported voting behavior, particularly under the LPM specification as shown in columns (1) – (2) of Table 4b. Although the estimated coefficients are positive, this positive relationship between migration and self-reported voting behavior cannot be precisely estimated using this estimation strategy. In contrast, our 2SLS estimates do confirm the effects found for the actual voting measure. Consistent with the existing literature, households in villages with more migrants, are found to be more politically active, although migrants seem to have a smaller effect on self-reported than actual voting. This difference can be explained by the conformity bias and resulting over-reporting of voting behavior discussed above, which may be an outcome of the information conveyed by migrants about the importance of political participation as discussed in the previous sections.

We next estimate a significantly stronger impact of geographical networks on the learning-corrected measure than on the simple self-report measure, as is clear in Table 4c. In all the estimated specifications, the impact of migrant networks is positive, significant and higher than when simply considering self-reported voting. We interpret this evidence as providing further support for an important informational role of migration through geographical networks. Indeed, migrants seem to transmit information about the relevance of political participation and about the political process itself. This is consistent with migrant-connected respondents being significantly more likely to self-report voting, and also to show the correct inked finger – a display of better knowledge about the electoral process, in addition to the simple recognition of the importance of voting.

Another potential theoretical mechanism that can explain the impact of migrant networks on political participation is a change in the identity of migrants and their peers, which generates intrinsic motivation for political participation. If this is the case, we would expect that experimental subjects connected to migrants respond more strongly when given the possibility to express their policy priorities – even if this is not part of the standard political process of the country. Indeed, our behavioral measure of political engagement confirms this hypothesis, although only after accounting for the potential simultaneity bias of migration networks and political behavior. Although the effect of geographical migrant networks is not statistically significant when using a LPM as shown in columns (1) and (2) of Table 4d, the 2SLS estimates in column (3) of the same table show that one more migrant household in a village increases political participation of its residents by 3.7 pp. This effect is similar in size to that on actual voting behavior and learning-corrected self-reported voting behavior.

The difference between the LPM and 2SLS estimates across all outcomes we use suggests negative self-selection of migrants in terms of their political attitudes. This is according to the results of Batista et al. (2017), which uses a number of sources of variation and estimation strategies to

conclude that emigration from Mozambique seems to be driven by unobservable self-selection – in terms of entrepreneurship in that case. This is consistent with a context in which there is a long history of migration to South-African mines and farms, where large networks of migrants substantially decrease any pecuniary and non-pecuniary costs of migration.

Overall our estimates suggest that geographical migrant networks are likely to improve political participation in migrant countries of origin through both information and intrinsic motivation mechanisms.⁴¹

One important question that remains is to understand what type of personal relationship with the migrant drives the impact of migrant geographical networks on political participation. For this purpose, we look at two types of networks within the geographical network: chatting and kinship networks.

7.2 Chatting Networks

We are interested in understanding how friendship – and in particular friendship with international migrant households – may affect political behavior. Friendship is a complex concept and implies subjective definitions especially in a country context such as Mozambique, where there exist many local languages whose usage in rural areas dominates the official language Portuguese. We proxy friendship by asking respondents with whom in the sampled village households they regularly chat as described in detail in the previous section.

Chatting with migrant households seems to significantly change actual voting behavior. As is shown in columns (1) to (4) of Table 5a, chatting with one more migrant household has a positive and significant effect on actual voting behavior of up to 5.8 pp when controlling for migrant self-selection and endogenous friendship selection.

Table 5b shows the effect of regularly speaking with migrant households on an individual's likelihood to self-report having voted. As before, we obtain highly significant positive effects of up to 3.6 pp in the probability to self-report voting per additional migrant household in the chatting network. This estimate is robust to controlling for self-selection of migrants and endogenous network formation.

This effect is almost doubled when examining the impact on the learning-corrected self-reported voting measure, as shown in Table 5c. We interpret this evidence as supportive of an important role of chatting with migrants for the transmission of information on the importance of political participation, and on the political process itself.

⁴¹ A relevant caveat to our empirical results is that we cannot distinguish the changes in political participation arising because of international migration per se, from potential income effects generated by migrant international remittances because the value of these remittances received is not included in our dataset.

The estimation results displayed in Table 5d show that the effect of migrant chatting networks is also positive and significant on our behavioral measure of political participation after controlling for simultaneity biases. As reported in column (3) of Table 5d, the positive effect of talking to one more migrant household increases the likelihood of sending a text message by 2.7pp when accounting for migrant self-selection. Controlling for endogenous network formation, the likelihood of sending a text message increases to 3.6 pp as shown in column (4). This evidence suggests that chatting with migrant households can act as an important driver of prescribed social norms on political participation.

7.3 Kinship Networks

We now turn to examining the role of kinship relations with migrant households in shaping political behavior of the left behind. A kinship relation between two households exists, if a respondent indicated to have family ties to the household head or any other member of another household in our sample within the respective EA. Since households were randomly sampled within each EA, we can expect the observed network links with migrants to be representative in magnitude to the overall kinship connectedness with migrant households of the respondent.

Our results in columns (1) and (2) of Table 6a suggest that kinship relations with migrant households are positively correlated with actual voter turnout. Indeed, we estimate positive effects between 2.6 pp and 3.0 pp per additional migrant household in the kinship network. Column (3) of Table 6a reports the 2SLS estimates of the effects of migration on actual voter turnout controlling for self-selection into migration. Our estimates point to a 2.1 pp effect, which cannot however be precisely estimated. Additionally controlling for the endogenous formation of network links in column (4) of Table 5a increases the effect of migrant networks to an imprecisely estimated 3.8 pp. This seems to indicate that family ties to migrants are not the main driver of the strong impact of geographical networks on actual voting behavior.

In terms of self-reported voting, kinship ties to migrants significantly increase self-reported voting behavior up to 4.4 pp even after controlling for unobservable self-selection in migration decisions and endogenous network formation as is shown in columns (1) - (4) of Table 6b.

This effect is even stronger when correcting the self-reports for knowledge on the voting process: as is displayed in columns (1) – (4) of Table 6c, the impact of migrant kinship networks varies between 2.7 pp using the LPM model, and 4.2 pp or 7.0 pp using the 2SLS estimates. This evidence suggests that having a migrant in the family can importantly contribute to better information on both the importance of political participation, and the political process itself – even if it is not enough to bring these family members of migrants to actually vote.

In contrast to the results on actual and self-reported voting, our behavioral measure of political participation is not significantly affected by kinship ties with migrant households. Neither the

LPM, nor the 2SLS specifications yield any statistically significant estimation results. These results suggest that being family related to migrants may not be enough to cause significant changes in prescribed social norms, and hence on the intrinsic motivation for political participation.

7.4 Discussion of Results

The impacts we estimate are quantitatively substantial, particularly given the high prevalence of migration in Mozambique, as illustrated in Table 1.

Indeed, taking 4.3 as the mean value of household migrants per village with migrants, living in a village with migrant households is responsible for an increase of 14.6 pp in the probability of actual voting in that village, and an increase of 15.9 pp in the probability of sending a text message with policy priorities to the president.

Again, in our sample the mean effect of regularly chatting with migrant households is an increase of 11.0 pp in the probability of actual voting, and an increase of 6.8 pp in the probability of sending the policy-demand text message.

These effects are sizeable, particularly in the context of an election that had a national turnout rate of 44% - implying that the effect of migrant networks would be between 25% and 33% of the overall turnout.

8. Concluding Remarks

There is a large body of literature in the social sciences examining the relationship between international emigration and politics in the home country of migrants. Our paper contributes to this line of work by examining the diffusion of political norms and information about electoral processes through different types of migrant networks – which we measure using detailed data on geographical, kinship, and chatting networks.

To understand the role of each of these types of networks, we propose a theoretical framework that distinguishes between two different roles of migration networks: enlarging the information set of individuals in the home country, and changing their social norms governing political participation. Both of these mechanisms are likely to promote political participation provided migrants transmit information and norms that improve on those prevalent in their country of origin.

The choice of studying migration as a determinant of political participation in the context of the 2009 national elections of Mozambique is particularly relevant. Mozambique is a low-income country with substantial South-South emigration, mostly to South Africa. This is a setting where both migrant countries of origin and destination have imperfect democracies, and where the empirical question of whether migrants can transfer improved political norms back home is not trivial – while being of relevance in a world where most migration flows happen in similar contexts.

Our empirical results suggest that political attitudes and behavior can be learned and valued more highly at home by individuals who are in contact with emigrants. We furthermore find that increased political participation seems to be mainly driven through contact with migrants through via chatting, rather than via family links to migrants. The evidence we examine is consistent with both information transmission and changed social norms for political participation via chatting with migrants. Family links seem to convey some information about the political process, but do not seem to significantly affect the intrinsic motivation for political engagement.

Related to our findings, existing evidence establishes that there are several mechanisms via which migration may affect the strengthening of democratic institutions. Adida and Girod (2010), Pérez-Armendáriz and Crow (2010) and Pfütze (2012), for example, emphasize the role of emigration in simultaneously improving governance and promoting political participation. Our results corroborate their findings.

While we confirm existing results on the positive effects of international emigration on political participation, the lack of heterogeneity in destination of Mozambican emigrants does not allow us to test for differential effects of migration to destinations with higher and lower democratic scores according to international rankings such as V-DEM or EIU, unlike Batista and Vicente (2011) for the case of Cape Verde. It will be important to produce additional research on this type of heterogeneous effects in countries with South-South migration flows to a variety of destinations.

In this paper, we use different measures of political participation - namely a proxy for actual electoral voting, and a behavioral measure based on a text message experiment that asked respondents to send a message with policy priorities to the president. The use of these very different measures provides credibility to our findings on the impact of emigration on political participation. Our findings are however more limited in terms of distinguishing the mechanisms through which migrant networks affect political participation. Our proxies for improved electoral information and for changed political norms/increased intrinsic motivation for political participation can only provide suggestive evidence of how different migrant networks transmit political participation. Further research using richer measures of electoral information and political norms would be of academic interest and policy relevance.

Overall, our work suggests that migration policies whereby the best governed migration host countries open their doors to migrants from countries with poor accountability records might be an effective way to promote political participation in the migrant countries of origin. According to our findings, these host countries need not be the most developed and with highest democratic rankings. Enacting South-South 'brain circulation' policies such as scholarship schemes not only in developed countries, but also in destination countries where governance is flawed and democracy is far from

working perfectly, might be an effective tool to promote the strengthening of political institutions and ultimately economic development.

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TABLES

Table 1: Migration - Household Characteristics (%)

	Number of Links	Migration Experience (%)
Households with <i>at least one migrant</i>		32.41
Migrant households in <i>geographical network</i>	0	17.5
	1	15.63
	2	10.48
	3	8.1
	4	11.1
	5	13.02
	6	6.85
	7	5.55
	8	4.25
	9	5.66
	10	1.87
<i>Kinship relations</i> with migrant households	0	58.28
	1	24.28
	2	7.89
	3	4.34
	4	2.34
	5	1.04
	6	1.47
	7	0.09
	8	0.09
	9	0.17
<i>Chatting relations</i> with migrant households	0	51.78
	1	23.59
	2	8.76
	3	5.55
	4	4.42
	5	2.43
	6	1.91
	7	0.69
	8	0.52
	9	0.35

Table 2: Destination Countries of All Migrants (%)

South Africa	86.62
Tanzania	5.16
Other African	1.64
Zimbabwe	1.41
Malawi	1.17
Swaziland	1.17
Other European	0.94
Portugal	0.70
Germany	0.47
Other	0.47
Cuba	0.23

Table 3: Summary Statistics. All Households.

Variable	Obs.	Mean	Std. Dev.	Min.	Max.
Inked Finger Indicator	1121	0.29	0.45	0	1
Self-Reported Voting	1121	0.91	0.28	0	1
Learning-Corrected Self-Reported Voting	1121	0.85	0.36	0	1
Sending Text Message	1147	0.18	0.38	0	1
HH Head Female	1766	0.45	0.5	0	1
HH Head Age	1750	37.6	13.6	15	88
HH Maximum Level of Schooling	1763	2.45	1.72	0	8
Total Access to TV, Radio or Computer	1764	1.14	0.86	0	3

Table 4: Effects of International Migrant Geographical Network**Table 4a: Actual Voting**

	LPM	LPM	2SLS
	(1)	(2)	(3)
International Migrants within Locality	0.022*** (0.007)	0.025*** (0.007)	0.034*** (0.013)
Individual Controls Included	NO	YES	YES
Kleibergen-Paap Wald F-Statistic	-	-	32.75
Observations	1121	1111	1111

Table 4b: Self-Reported Voting

	LPM	LPM	2SLS
	(1)	(2)	(3)
International Migrants within Locality	0.004 (0.003)	0.004 (0.003)	0.018** (0.007)
Individual Controls Included	NO	YES	YES
Kleibergen-Paap Wald F-Statistic	-	-	32.75
Observations	1121	1111	1111

Table 4c: Learning-Corrected Self-Reported Voting

	LPM	LPM	2SLS
	(1)	(2)	(3)
International Migrants within Locality	0.011*** (0.004)	0.012*** (0.004)	0.034*** (0.010)
Individual Controls Included	NO	YES	YES
Kleibergen-Paap Wald F-Statistic	-	-	32.75
Observations	1121	1111	1111

Table 4d: Behavioral Measure

	LPM	LPM	2SLS
	(1)	(2)	(3)
International Migrants within Locality	-0.002 (0.008)	-0.001 (0.008)	0.037** (0.015)
Individual Controls Included	NO	YES	YES
Kleibergen-Paap Wald F-Statistic	-	-	33.52
Observations	1147	1137	1137

Table Notes: Individual Controls include gender of household head (male), age of household head (years), highest education level completed by the household head, and access to radio, television and computers. We further control for province effects in all specifications. Instrumental Variable is a measure of the cumulative exposure to droughts experienced by each household. Please see text for details on the construction of the IV. Kleibergen-Paap Wald F-statistics are reported. Standard errors in parentheses, clustered at enumeration area level, * p<0.10, ** p<0.05, *** p<0.01.

Table 5: Effects of International Migrant Chatting Networks**Table 5a: Actual Voting**

	LPM	LPM	2SLS	2SLS
	(1)	(2)	(3)	(4)
International Migrant Chatting Network	0.021*** (0.009)	0.025*** (0.009)	0.032** (0.015)	0.058*** (0.020)
Individual Controls	NO	YES	YES	YES
Kleibergen-Paap Wald F-Statistic	-	-	36.83	30.66
Observations	1121	1111	1111	1111

Table 5b: Self-Reported Voting

	LPM	LPM	2SLS	2SLS
	(1)	(2)	(3)	(4)
International Migrant Chatting Network	0.015*** (0.004)	0.014*** (0.004)	0.018** (0.007)	0.036*** (0.009)
Individual Controls	NO	YES	YES	YES
Kleibergen-Paap Wald F-Statistic	-	-	35.53	30.66
Observations	1121	1111	1111	1111

Table 5c: Learning-Corrected Self-Reported Voting

	LPM	LPM	2SLS	2SLS
	(1)	(2)	(3)	(4)
International Migrant Chatting Network	0.027*** (0.006)	0.027*** (0.006)	0.044*** (0.009)	0.059*** (0.017)
Individual Controls	NO	YES	YES	YES
Kleibergen-Paap Wald F-Statistic	-	-	36.83	30.66
Observations	1121	1111	1111	1111

Table 5d: Behavioral Measure

	LPM	LPM	2SLS	2SLS
	(1)	(2)	(3)	(4)
International Migrant Chatting Network	0.007 (0.009)	0.011 (0.009)	0.027** (0.014)	0.036** (0.017)
Individual Controls	NO	YES	YES	YES
Kleibergen-Paap Wald F-Statistic	-	-	38.00	29.12
Observations	1147	1137	1137	1137

Table Notes: Individual Controls include gender of household head (male), age of household head (years), highest education level completed by the household head, and access to radio, television and computers. We further control for province effects in all specifications. Instrumental Variable is a measure of the cumulative exposure to droughts experienced by each household. Please see text for details on the construction of the IV. Kleibergen-Paap Wald F-statistics are reported. Standard errors in parentheses, clustered at enumeration area level, * p<0.10, ** p<0.05, *** p<0.01.

Table 6: Effects of International Migrant Kinship Network**Table 6a: Actual Voting**

	LPM	LPM	2SLS	2SLS
	(1)	(2)	(3)	(4)
International Migrant Kinship Network	0.026** (0.012)	0.030** (0.012)	0.021 (0.017)	0.038 (0.030)
Individual Controls	NO	YES	YES	YES
Kleibergen-Paap Wald F-Statistic	-	-	46.83	24.77
Observations	1121	1111	1111	1111

Table 6b: Self-Reported Voting

	LPM	LPM	2SLS	2SLS
	(1)	(2)	(3)	(4)
International Migrant Kinship Network	0.015*** (0.005)	0.014*** (0.005)	0.030*** (0.007)	0.044*** (0.008)
Individual Controls	NO	YES	YES	YES
Kleibergen-Paap Wald F-Statistic	-	-	46.83	24.77
Observations	1121	1111	1111	1111

Table 6c: Learning-Corrected Self-Reported Voting

	LPM	LPM	2SLS	2SLS
	(1)	(2)	(3)	(4)
International Migrant Kinship Network	0.027*** (0.007)	0.027*** (0.007)	0.042*** (0.014)	0.070*** (0.009)
Individual Controls	NO	YES	YES	YES
Kleibergen-Paap Wald F-Statistic	-	-	46.83	24.77
Observations	1121	1111	1111	1111

Table 6d: Behavioral Measure

	LPM	LPM	2SLS	2SLS
	(1)	(2)	(3)	(4)
International Migrant Kinship Network	0.004 (0.012)	0.010 (0.012)	0.022 (0.022)	0.020 (0.020)
Individual Controls	NO	YES	YES	YES
Kleibergen-Paap Wald F-Statistic	-	-	47.47	26.04
Observations	1147	1137	1137	1137

Table Notes: Individual Controls include gender of household head (male), age of household head (years), highest education level completed by the household head, and access to radio, television and computers. We further control for province effects in all specifications. Instrumental Variable is a measure of the cumulative exposure to droughts experienced by each household. Please see text for details on the construction of the IV. Kleibergen-Paap Wald F-statistics are reported. Standard errors in parentheses, clustered at enumeration area level, * p<0.10, ** p<0.05, *** p<0.01.