

**Divided Island:  
Haitian Immigration and Electoral Outcomes in the Dominican  
Republic.**

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**Abstract**

This paper provides new evidence on the effect of immigration on electoral outcomes in developing countries and emerging democracies. The Dominican Republic is used as case study as it provides a highly interesting context to analyse this issue. The vast majority of its immigrants come from neighbouring Haiti, and together the two countries share the island of Hispaniola. The analysis relies on a novel municipality panel dataset and an instrumental variable strategy to address the endogeneity of the location decisions of immigrants. I find robust evidence that higher immigrant concentration causes greater support for the right-wing political coalition that has traditionally been more opposed to immigration. At the same time, the popularity of the centre coalition is found to decline in localities characterised by a larger exposure to foreigners. Empirical evidence from election outcomes and opinion survey data suggests that citizenship, political competition, and cultural identity considerations might be shaping individual attitudes towards immigrants in the Dominican Republic.

Keywords: Attitudes, Dominican Republic, Elections, Haiti, International migration, Political Economy

JEL codes: F22; R23; D72

# 1 Introduction

Anti-foreigner sentiment has undeniably been on the rise in several European countries in recent years. Contrary to conventional wisdom, immigration and the hostile reactions natives may have towards foreigners are not societal issues specific to industrialized countries. In numerous developing countries, India and South Africa for example, immigration from poorer neighbours has been triggering hostile and at times violent responses from native populations. In younger democracies, violence can sometimes be more pronounced and the rule of law less established, both potentially leading to human rights violations against migrants. Yet, little is known about how immigration affects attitudes and election results in developing countries. Understanding it is all the more important as political outcomes can lead to public policy reforms with long term welfare consequences. This paper fills this gap by looking at the effect of immigration in the Dominican Republic (DR). A middle-income country located in the Caribbean, the DR provides a very interesting natural experiment setting to empirically study the relationship between immigration and the political preferences of natives. Immigration from its neighbour Haiti, with which it shares the island of Hispaniola, has soared over the last decades. Census data from the Office for National Statistics reveal that between 2002 and 2010 the official number of Haitians living in the DR increased five-fold. In total, immigrants from Haiti represented as much as 81% of the total foreign population at the end of 2010. This demographic trend has been accompanied by inter-ethnic tensions, unlawful and arbitrary deportations, and even a Constitutional amendment implicitly aimed at depriving Dominicans of Haitian descent of their Dominican nationality.

This paper addresses the question of whether Haitian immigration has influenced electoral outcomes in the DR. To do so, it draws upon a broad range of data sources, including a novel municipality-level panel dataset that combines for the first time information from various Dominican public databases. The analysis relies on the local outcomes of the 2004 and 2012 presidential elections, and the 2002 and 2010 congressional elections. Housing and population census data from 2002 and 2010 provides information on immigrant populations and local municipality characteristics. The choice of the study period is dictated by data availability. Using municipal-level data is advantageous since municipalities are rather small administrative units, implying that individuals are directly exposed to immigrant inflows. The empirical investigation is based on a first difference model that allows to difference out all unobserved time invariant municipality confounders. The focus on two countries sharing one island provides interesting opportunities to identify arguably exogenous sources of variation in Haitian migration. To account for the endogenous location decisions of migrants, I adopt an instrumental variable (IV) strategy capturing the influence push factors have in determining the settlement pattern of Haitian migrants in the DR. The first instrument is based on a municipality's distance to Haiti's main administrative units interacted with population growth in Haiti. The second instrument exploits the large exogenous shock of the 2010 Haitian earthquake.

I find robust evidence of a positive relationship between a higher concentration of Haitian immigrants and the vote shares of the right-wing political coalition traditionally opposed to immigration. Moreover, I find that the historically more immigration-friendly coalition located at the centre of the political spectrum experiences a reduction in electoral support in municipalities with larger population shares of Haitians. This holds for presidential and congressional elections. Even though these estimates must be interpreted as reduced form relationships between immigrant concentration and electoral outcomes, my estimates still have a causal interpretation. To shed light on the channels through which immigration affects electoral outcomes, I analyse answers from Vanderbilt's University *AmericasBarometer* 2010 survey. The empirical evidence based on individual opinions suggests that concerns over citizenship, political competition, and cultural identity might be the main drivers of the political response of Dominican natives to the immigration of Haitians.

This paper brings together the economics of international migration and the political economy of migration. A large number of studies have looked at the consequences of immigration on the labour market outcomes of natives (see e.g., Card 2001; Friedberg 2001; Borjas 2003; Dustmann et al. 2005). In recent years several papers have investigated the link between immigration and crime (see e.g., Bianchi et al. 2012; Bell et al. 2013). Significantly less research has attempted to understand the political consequences of immigrant inflows and a consensus has yet to be found on how immigration affects the popularity of different political parties. Most studies in the immigration impact literature either use a shift-share instrumental variable similar to Card (2001) or the inverse distance to origin countries to predict the location decisions of immigrant inflows. The focus on migration from Haiti only to the Dominican Republic prevents me from adopting these instruments. Instead, my analysis relies on two original instruments. The first exploits population growth and demographic pressure in Haiti, and the second relies on the distance to the January 2010 Haitian earthquake epicentre. My empirical findings are robust to the use of these alternative instruments. I also assess the sensitivity of my results to alternative validation checks and control for bilateral trade proxies, exclude outlier municipalities, and test for native flight.

This paper contributes to the literature on immigration and political outcomes in the following ways. It is to the best of my knowledge the first quantitative study of the consequences of immigration on electoral outcomes in a developing country. It is also the first study looking at an emerging democracy. In both settings political behaviour generally differs from European democracies. For instance, voters tend to have less experience with party politics and democracy. Combined with weaker rule of law, natives might more readily voice their discontent by protesting and using violence rather than the ballot box. In new democracies, new electorates are also unlikely to have long-term political party attachments guiding their behaviour (Dalton and Klingemann 2011). Electoral choice in the DR also involves important sociocultural cleavages, such as ethnicity. Moreover, the literature on attitudes towards immigration has arguably put too much focus on the experiences of European countries (Ceobanu and Escandell 2010). Second, this paper exploits a rich and entirely novel dataset combining decennial census data, election results, and opinion

survey answers. Third, instead of relying on traditional identification strategies this paper proposes a new instrumental variable based on push factors to account for the endogeneity of the location decisions of migrants. Fourth, it provides evidence using individual opinion survey data on the channels that might be driving the association found between immigration and political party performance.

Overall, the main results found in this paper are relatively comparable to those found in related studies based on European countries. Empirical evidence from Austria, Denmark, and Italy shows that greater inflows of migrants have a significant and positive impact on right wing and far-right parties (Barone et al., 2016; Dustmann et al., 2017; Halla et al., 2017). In terms of mechanisms at play, the Dominican context seems to be relatively comparable to the Italian case. In both settings, political competition and cultural diversity seem to be relevant channels. Unlike in Germany and Austria, labour market competition and crime don't seem to influence Dominican natives' political responses to immigration.

The remainder of the paper proceeds as follows. Section 2 provides some theoretical background and reviews the relevant literature on the subject. In the third section, I provide some contextual information on the Dominican-Haitian setting. The fourth section describes the data used and the identification strategy, while section 5 discusses the main empirical results. Section 6 discusses channels and empirical evidence from individual opinion survey data. The last section concludes.

## **2 Theoretical background and literature review**

Immigration can impact election outcomes through two distinct channels. First, when immigrants become naturalized and participate in host country elections, they can directly influence political outcomes. Immigrants can also have an indirect effect by affecting the utility of native voters and their preferences towards immigration policy, and in consequence the identity of the political party natives decide to cast a vote for (Mayda et al. 2016). Separating the two channels can be quite challenging. In the Dominican case, only the indirect channel is relevant as Haitian immigrants are *de jure* (and *de facto*) banned from obtaining the Dominican citizenship and voting rights.

Individual preferences over immigration policy are determined by several considerations. Scholars have identified various economic and non-economic channels through which higher immigration can *negatively* affect natives' beliefs and attitudes towards foreigners. These channels have in common that they emphasize the potential threat that immigration might represent for the economic, political, and cultural interests of natives. Labour market competition is arguably the most obvious of these channels. Native workers with similar skills and professional experience as immigrant workers might oppose immigration on the ground that foreigners stimulate competition in the labour market, which in some cases may translate into reduced wages or higher unemployment. (Scheve and Slaughter 2001; Mayda 2006; Ortega and Polavieja 2012). Welfare state (or fiscal burden) considerations are the other main economic factor that might adversely

affect the attitudes of natives. Fear of immigration-induced higher tax rates and/or reduced amount of public benefits might push natives to become reticent to open-door immigration policies (Hanson et al. 2004; O'Rourke and Sinnott 2006; Facchini and Mayda 2009). Card et al. (2012) stress that immigration can also provoke concerns over the compositional amenities natives enjoy - such as neighbourhoods, schools, or workplaces. According to the group-conflict theory, immigration can also result in greater hostility from natives if the latter perceive their culture and identity to be threatened. Central in this theory is the distance between hosts and destination countries with respect to norms, values, culture, and ethnicity (Dustmann and Preston 2001; Schneider 2008). Natives might also be worried that in the longer run naturalized immigrants alter the political balance between parties. I refer to these alternative channels as 'resource-threat' theories in what follows. In contrast, the Contact Theory or Contact Hypothesis argues that proximity and interpersonal contact can be *positive* and help reduce prejudice between groups (Haubert and Fussell 2006; Carrell et al. 2015). In sum, theoretical predictions of what is the effect of greater exposure to immigration on natives' attitudes are a priori unclear. Understanding how anti-foreigner sentiment evolves following an influx of migrants in a particular country or locality remains an empirical question, the answer of which is ultimately context-specific.

The empirical literature on the effect of immigration on electoral outcomes is thin but rapidly growing. The evidence available so far suggests that in Europe support for more conservative political parties is strengthened by a higher concentration of immigrants. Otto and Steinhardt (2014) study the relationship between local immigrant concentration and the success of pro- and anti-immigration parties in the districts of the German city of Hamburg. Their results indicate a positive impact of growing shares of foreigners on the political success of extreme right-wing parties. In addition, they find a negative association between rising concentrations of immigrants and electoral support for the immigration- and refugee-friendly Green party. Halla et al. (2012) find similar results when studying support for the far-right and anti-immigration Freedom Party of Austria (FPÖ) using national elections data. Further, their empirical evidence suggests that it is the presence of low- and medium-skilled immigrants that is driving their findings. Barone et al. (2016) analyse the impact of immigration on the political preferences of natives in Italy. They find that in municipalities that experienced relatively larger arrivals of immigrants, the electorate has been more willing to vote for the centre-right coalition with political platforms less favourable to the immigrants. They also find that the gain in votes for the centre-right coalition was accompanied with a loss of votes for the centre-left parties. These findings appear to be explained by multiple channels, including concerns over cultural diversity, native-immigrant competition in the labour market and access to public services. Dustman et al. (2016) estimate the effect of refugee migration on voting outcomes in Denmark. They find that in all but the largest municipalities the allocation of larger refugee populations leads to an increase in the vote share of parties with an anti-immigration agenda and centre-right parties, while the vote share for centre-left parties decreases. Finally, Mayda et al. (2016) empirically analyse the impact of immigration to the U.S. on the share of votes to the Republican and Democrat parties in recent years. Using variation across states and

years they find that on average immigration to the U.S. has a significant and negative impact on the Republican vote share.

### **3 The Dominican-Haitian case**

#### **3.1 A brief history of Dominican attitudes towards Haitian migrants**

Haiti and the DR are located on the island of Hispaniola in the West Indies. They share a rich, complex, and at times violent history. The eastern part of the island, now the DR, was colonized and ruled by Spain for more than two hundred years. Haiti on the western part of the island, used to be a lucrative French plantation colony. France set up highly extractive institutions in Haiti and imported slave labour on a large scale from Africa during the 18th century. With large territories to administer on the American continent, the Spanish crown did not invest as much in the island as France. Haitian slaves revolted in 1791 and fought for freedom and independence for 13 years. Haiti eventually became the first republic of freed slaves in 1804. In 1822 the Haitian army invaded the DR, which had obtained its independence from Spain a year earlier. The DR became independent again in 1844 after more than 20 years of Haitian occupation. Unlike most countries in the region, the Dominican Independence Day celebrates independence from Haiti and not Spain or the United Kingdom. Some cultural differences between the two nations persist to this day. For instance, Dominicans are Hispanics whereas Haitians speak French and creole (Jaramillo and Sancak 2009; Acemoglu et al. 2012).

The attitudes of Dominicans toward Haitians have their roots in the distant past, and Haitian immigrants have suffered from stigmatization in the Dominican Republic for most of the last 150 years. This historical stigmatization has been documented by scholars and termed ‘anti-Haitianism’ (Howard 2001). Haiti’s multiple attempts to invade the DR during the 19th century gave rise to a lasting suspicion of Haiti’s intentions among Dominicans. Modern aspects of anti-Haitianism are largely the product of 20<sup>th</sup> century politics however; chiefly the anti-Haiti propaganda of Trujillo’s right-wing dictatorship (1930-1961). During that period and subsequently under the rule of Joaquín Balaguer (1960-1962; 1966-1978; 1986-1996), the Dominican identity was built in good part by differentiating itself from the Haitian one. For decades, the DR has celebrated its European and indigenous heritage while downplaying its African roots. In contrast, Dominican elites have portrayed Haitians as being inferior, black, voodoo practitioners, and culturally African (Sagás 2000; Paulino 2002). Given the 330 km long and porous border between the two countries, Dominican leaders often talk of a silent invasion from Haiti and assert that Haitian immigration threatens the “three-pillars” of the Dominican society: Spanish ancestry, Hispanic culture, and Catholicism. As a result, a culture of entrenched prejudice against Haitians exists in the Dominican Republic (Martin et al. 2002; Howard 2007; Morgan et al. 2011).

#### **3.2 Immigration in the Dominican Republic**

Despite the aforementioned widespread resentment, the Dominican economy is highly dependent on cheap Haitian labour. From the beginning of the 20<sup>th</sup> century until the 1980s, most of the legal migration from Haiti to the DR was limited to seasonal labour contracts to work in the sugar cane cutting industry. Post 1980, with the decline of the sugar industry, the diversification of the Dominican economy, and the fall of the Duvalier dictatorship in Haiti (which was receiving bribes in exchange for the supply of short-term labour migrants), Haitians began to cross the border to work in other sectors – mostly agriculture, construction, tourism and services (Martin et al. 2002; Wooding and Moseley-Williams 2004).

The Dominican Republic has enjoyed a solid period of economic expansion over the last twenty years. It ranked among the fastest growing economies in Latin America and the Caribbean in the 1990s (World Bank 2006). Between 1998 and 2013, real GDP per capita grew at an average annual rate of 3.4%. In addition, Dominican democratic institutions have remained stable and fairly open over the last 20 years, features which have become entrenched in the country's political culture after a rather politically volatile 20<sup>th</sup> century. Conversely, Haiti has stagnated in terms of income per capita growth and suffered from repeated period of political instability (See Figures 1 and 2). The reasons for this drastic long-term divergence of fortunes between the two neighbouring nations are still debated. Reasons usually put forward include environmental factors, the institutional histories of the two countries, the profile and legacy of the two mid-20<sup>th</sup> century dictators ruling over each side of the island, political instability and the contrasted implementation of stabilisation and structural market-friendly policies (see e.g., Jaramillo and Sancak 2009; Diamond 2010; Acemoglu et al. 2012). In practice, the economic divergence between the two countries has encouraged a large number of Haitians to cross the border in the hope of finding better economic opportunities and living conditions (World Bank 2006). Dominican census figures show that between 2002 and 2010, the number of individuals born in Haiti increased five-fold to represent 3.3% of the total population and 80.7% of the foreign population by the end of the decade<sup>1</sup> (see Table 1 and Figure A.1). Haitian immigrants in the DR tend to settle close to the border, in the northern part of the country where sugar, banana and rice are cultivated, in the main urban centres - Santo Domingo the capital city and economic centre of the country in the South, and Santiago in the West -, and in the Eastern tip of the island where sugar cane grows on large-scale plantations and the tourism industry has been booming in recent years (see Figures 3 and 4). Roughly 60% of Haitian migrants settle in urban areas nowadays. This contrasts with the mostly plantation-labour related migration of the first half the 20<sup>th</sup> century. The Haitian immigrant population is also fairly young and mostly comprised of men (see Table A.2 in Appendix). About a fourth of Haitian migrants do not know how to read or write, with a higher proportion of illiteracy in rural areas where work is generally more physically intensive and less demanding in terms of literacy skills (ONE 2012 National Survey of Immigrants).

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<sup>1</sup> Far behind Haiti in terms of immigrant numbers, the other main origin countries contributing to the foreign population living on the Dominican soil are the US, Spain, Puerto-Rico, and Venezuela (see Table A.1 in Appendix).

Data from the Dominican Office for National Statistics (2012) suggests that there is a positive relationship between the population size of the Haitian administrative regions (*départements*) and the number of migrants leaving these regions for the DR. On the other hand, there is a negative association between the distance of Haitian regions to the border and the number of migrants leaving these Haitian regions. This is clearly shown in Figures A.2 and A.3. Proximity to the border is evidently strongly correlated with migration costs.

Once in the DR, most Haitian men work as wage-employee, while close to half of the working women engage in self-employment. Men tend to work in physically demanding sectors (agriculture and construction) whereas women tend to work in the services sector. The working conditions of migrants are often quite precarious with a high prevalence of temporary work and verbal contracts (ONE 2012 National Survey of Immigrants). Discrimination in the workplace is also quite frequent, and the hardest tasks are usually left for Haitians (World Bank 2006). Abuses and various forms of discrimination have been denounced by non-governmental organisations and human rights groups (Amnesty International 2015; Human Rights Watch 2015).

### **3.3 Dominican politics**

The Dominican Republic has a presidential system of government with independent executive and legislative branches. The president and the vice president are directly elected in each presidential election. The candidate with at least 50.01% of valid votes is declared winner of the election and is elected for four years. If none of the candidates receives a majority of the votes in the first round, a second round of voting is held (Nohlen 2005; IFES 2015; PDBA 2015). One of the advantages of working with presidential elections in the DR is that political platforms focus on nation-wide issues, such as immigration policy. I also analyse the effect of Haitian immigration on congressional election results. In the DR congressional elections are held in even numbered years not divisible by four, with even-numbered years divisible by four being reserved for presidential elections. In congressional elections, voters directly elect both Senators and Deputies (Nohlen 2005). The Senate comprises 32 seats, and its members are elected in single-seat constituencies to serve 4-year terms (one Senator per province). Deputies are directly elected in multi-seat constituencies by proportional representation vote and serve 4-year terms.

The Dominican political system has been dominated by two main parties since the end of the 1990s and under the period of study. The PLD (*Partido de la Liberación Dominicana*) and PRD (*Partido Revolucionario Dominicano*) have converged towards the centre of the political spectrum since the 1980s. While the two parties are not drastically different in terms of policy platforms, the PLD appeals to a more right-wing oriented electorate than the PRD (Hartlyn and Espinal 2009; Morgan et al. 2011; Meilán 2014). A few examples from recent history help corroborate this point. For instance, Hipólito Mejía, the last PRD member to seat in the presidential office, focused on modernizing and improving access to public services in poor rural areas during his term 2000-2004 term. His administration also established the first social-security type retirement system of the country. His successor, Leonel Fernández from the PLD, focused



instead on large infrastructure investments and macroeconomic stability during his 2004-2012 rule. He was publicly perceived as less attentive to social issues and socioeconomic inequality (Meacham 2013). Evidence on the ideology differences of the two parties can be found in the 2010 *AmericasBarometer*<sup>2</sup> opinion survey data. On average, a simple t-test of equality of means reveal that PRD sympathizers place themselves statistically significantly closer towards the left than PLD sympathizers on a 1-10 Left-Right political ideology scale (Appendix Table A.3). The *AmericasBarometer* survey also provides evidence suggesting that PLD sympathisers hold more conservative views. For instance, they are more likely to attach importance to religion in their life.

Since none of these parties are usually predicted in opinion polls to win more than 50% of votes in the first round, the PLD and PRD are used to form coalitions with smaller parties to avoid a runoff election (Hartlyn and Espinal 2009). In 2004 and 2012, the PLD formed a coalition with six and thirteen other parties, respectively. The PRD was allied with five parties in both elections. Out of the five parties allied to the PRD in 2004, two joined the PLD coalition in 2012. The other three parties ran as independent parties in 2012 or did not run at all. The PLD coalition showed greater stability. Five out of the six allied parties renewed their participation to the PLD coalition in 2012. Both elections under study were won by the PLD coalition. With 57.1% of the votes obtained in the first round, the PLD took over power in 2004 from the PRD after campaigning on the incumbent dismal economic record (Sagás 2005). In 2012, the PLD coalition won by a narrow margin in the first round of the election (51.2%) for the third consecutive time (Meilán 2014). In each election, the two coalition groups collected more than 90% of the votes (Figure A.4). The PLD coalition did well in the North and the South of the country in the 2010 elections (Figure 5). Appendix Table A.4 shows the composition of each coalition in the 2004 and 2012 presidential elections.

There are several reasons that can explain the decline in the vote share of the PLD between the two presidential elections of 2004 and 2012. First, the PLD ran for a third consecutive presidential mandate in 2012. Having been in office for eight years, the party lost some popularity given that not much socio-economic progress was delivered and several corruption cases were brought to public attention during that period. Evidence of a negative trend with respect to the popularity of the PLD over the study period can actually be found in the LAPOP surveys. Study participants in 2006, 2008, 2010, and 2012 were asked: “with which political party do you sympathise with? i) PLD, ii) PRD, iii) PRSC, iv) other?” Within these six years the share of respondents reporting being PLD sympathisers fell from 70% to 52%. The PLD still enjoyed more sympathy than the PRD in the general public opinion in 2012. Second, migration is only one of the factors that influence election results in the Dominican Republic. The Dominican economy

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<sup>2</sup> The AmericasBarometer is a series of surveys of democratic public opinion and behaviour that covers the Americas (North, Central, South and the Caribbean). It is managed by the Latin American Public Opinion Project (LAPOP), which is hosted by Vanderbilt University. Source: The AmericasBarometer by the Latin American Public Opinion Project (LAPOP), [www.LapopSurveys.org](http://www.LapopSurveys.org).

experienced quite volatile economic conditions between 2008 and 2012. It is quite possible that some voters penalized the PLD and its allies for their macroeconomic performance record for instance.

None of these two parties adopts an explicit pro-Haitian stand. Yet, the PRD has historically been seen as less racially prejudiced; in large part because it was led by José Francisco Peña Gómez, a descendant of Haitian immigrants, for almost two decades. In addition, PRD Antonio Guzmán who led the DR between 1978 and 1982 tried explicitly to improve diplomatic relations with Haiti at a time when they were particularly tense. During the 2000-2004 presidency when the PRD was in power for the last time in recent history, the government announced measures to ease the access of unauthorized Haitian children to primary and secondary schools (Martin et al. 2002; Sagás 2000; Wooding and Moseley-Williams 2004).

On the other hand, all the controversial citizenship laws and constitutional amendments targeting Haitian migrants were undertaken under recent PLD rule. In 2010 the DR revised its constitution to grant citizenship automatically only to those children born on Dominican soil with parents holding formal legal status. In 2013, the Dominican Constitutional Court issued a ruling retroactively denationalizing Dominicans of Haitian descent whose parents lacked formal residency permits, extending all the way back to 1929. Further, in both presidential elections under study the ultra-nationalist and most vocal anti-immigration *Fuerza Nacional Progresista* (FNP) party joined the PLD coalition. The FNP essentially campaigns on a far-right anti-Haitian migration platform. It backed the constitutional amendment stripping Haitian Dominicans of their citizenship rights. The FNP has proposed to build a wall along the border with Haiti. It also advocates putting in place preferential treatment recruitment practices for Dominicans<sup>3</sup>. As a result, if ‘resource-threat’ theories were to apply in the Dominican case, municipalities with a larger population share of Haitian immigrants would be expected to show greater support for the migrant-hostile PLD coalition, and less support for the PRD. The Contact Hypothesis predicts the opposite.

Lastly, it is important to note that Haitian immigrants cannot vote in presidential elections. In addition, naturalization is not an issue here as successive governments and Dominican institutions have literally made it almost impossible for Haitian immigrants to obtain Dominican citizenship (Wooding and Moseley-Williams 2004; Hartlyn and Espinal 2009).

## 4 Empirical Strategy

### 4.1 Data sources

The data used in this part of the analysis comes from two distinct sources. Electoral outcomes for the congressional and presidential elections were obtained from the Dominican Central Electoral Board. The

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<sup>3</sup> Vinicio Castillo, FNP president, in the *Listin Diario* (2014): <http://www.listindiario.com/puntos-de-vista/2014/06/09/325153/la-invasion-esta-anunciada>.

2002 and 2010 national census provides municipality-level socio-economic indicators, including Haitian population presence. Census survey teams carried out field work in October 2002 and December 2010, and therefore almost a year after the earthquake for the last census. Appendix Table A.5 reports descriptive statistics for some municipality-aggregate variables. On average, over the two time periods considered, Haitians (defined as individuals born in Haiti) represents 3.1% of the population of Dominican municipalities, but the distribution is far from homogenous. In 2002, a few municipalities still had no Haitian migrants. In 2010, a fourth of the population of the municipality of *La Descubierta* were Haitian-born.

Figures 6 and 7 plot the change in the stock of Haitian migrants (in percentage of the 2002 municipality population) against party vote share variation in presidential elections. There appears to be a marked positive association between Haitian immigration and right-wing PLD coalition vote shares. On the other hand, PRD presidential election results display a weak negative association with Haitian immigration. A few municipalities stand out as outliers due to the large increase in migrant population recorded over the study period.

## 4.2 Empirical methodology

To measure the effect of exposure to Haitian immigration on electoral outcomes, I estimate long first-difference (FD) equations of the following form:

$$\Delta Y_{m,p,r}^j = \beta_1 \cdot \frac{\Delta H_m}{P_{m,t-1}} + \Delta X'_{p-m} \cdot \beta_2 + \varphi_r + \Delta \varepsilon_{m,p,r} \quad (1)$$

where  $\Delta Y_{m,p,r}^j$  refers to the change in vote share received by political party coalition  $j$  in municipality  $m$  in province  $p$  of region  $r$  between two elections. The key variable of interest is the change in the stock of Haitian immigrants  $\frac{\Delta H_m}{P_{m,t-1}}$  and is expressed in percentage of the 2002 municipality population as is common in the literature. I include a vector of province-level covariates net of municipality characteristics  $\Delta X_{p-m}$  to avoid post-treatment bias. It includes the dependency ratio defined as the number of individuals aged 0-15 years old and over 65 years old (in percentage of the total population) to account for a potential demographic association between age composition and voting outcomes. The shares of adults with secondary and tertiary education are also included to control for the level of education of the population. The unemployment rate is also considered as economic conditions are quite likely to influence political preferences. I include information on agriculture and manufacturing employment to control for the structure of the local economy. I also control for municipality total population.  $\varphi_r$  are region fixed effects

and allow to flexibly control for unobserved regional shocks<sup>4</sup> common to municipalities.  $\beta_k$  are the parameters to be estimated and  $\varepsilon_{m,r}$  is the error term. Standard errors are clustered at the municipality level.

### 4.3 Identification strategy

Haitian migrants are unlikely to select their destination municipalities at random. Estimating the causal effect of exposure to immigration on election results therefore cannot be done with ordinary least squares (OLS). More generally, three endogeneity issues prevail: i) reverse causation; ii) omitted variable bias; and iii) measurement error. Reverse causation might arise if Haitians decide to settle in localities relatively more immigration-friendly. Also, time-varying omitted variables such as local economic shocks could determine at the same time the location of immigrants and the political preferences of the Dominican population (Zavodny 1999; Åslund 2005). Finally, there are valid reasons to believe that some measurement error plagues the data as a large number of Haitian migrants cross the border illegally. Official statistics are also thought to underreport the true size of the Haitian population living in the DR (World Bank 2006).

To address these endogeneity concerns and given the nature of the data and research question, I instrument time variation in the migrant stock with push factors variables. It has long been established in the migration literature that so-called push factors (demographic, socio-economic and political conditions at home) affect individuals' decisions to emigrate (Massey et al. 1993; Özden et al. 2011). They are also less likely to be correlated with unobserved destination characteristics.

The first instrument proposed for the presence of Haitians in each municipality is based on the Haitian migration patterns discussed in the previous section. It relies on population growth in Haiti and distance measures. The instrumental variable is constructed as follows. First, I calculate for each Dominican municipality the distance between its centroid and each centroid of the ten Haitian *départements*. Second, I measure the population size of each Haitian administrative unit using 2003 census data and 2009 population estimates produced by the Haitian Institute for Statistics<sup>5</sup>. Third, for every Dominican municipality I divide population size in each Haitian department by its distance to the municipality's centroid. Finally, I sum the ratio described above across the ten Haitian *départements* to obtain the instrumental variable, which can be interpreted as a population distance-weighted average (see Figure A.6). Formally this instrument  $Z_{m,t}$  can be written as:

$$Z_{m,t} = \sum_{d=1}^{10} \frac{Population_{d,t}}{Distance_{m,d}} \quad (2)$$

where  $Population_{d,t}$  represents Haitian department  $d$ 's census population figures for 2003 ( $t=1$ ) and population estimates for 2009 ( $t=2$ ). The last Haitian population census was conducted in 2003 and in 2009

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<sup>4</sup> The DR is divided into ten regions and 30 provinces in my sample. See Figure A.5 in Appendix for a map of the ten regions.

<sup>5</sup> Institut Haïtien de la Statistique et d'Informatique (IHSI).

the Haitian Institute for Statistics calculated population estimates for the various regions of the country. The percentage point (pp) variation of the stock of Haitian migrants in each municipality is thus instrumented with the distance-weighted change in population in Haiti.

An instrumental variable must meet three conditions to be valid. The relevance condition states that the instrument must be strongly correlated with the endogenous variable. I present in the next sub-section first-stage least squares results showing that the instrument is highly correlated with Haitian immigration to discard weak instrument problems. The second condition requires that the instrument must be as good as randomly allocated. Both components of the instrument used here, i.e., distance to Haitian departments and population growth abroad, can be assumed to be exogenously determined from the perspective of a given Dominican municipality. Finally, the exclusion restriction, states that the instrument must be exogenous and uncorrelated with any other unobserved determinants of the dependent variable, here electoral outcomes (Imbens and Wooldridge 2007; Angrist and Pischke 2008, p.116). Population growth in Haiti could affect electoral outcomes in the Dominican Republic through two other channels than immigration. Firstly, as population grows in Haiti, market size increases and that increase could lead Dominicans to migrate to Haiti to seize new economic opportunities. As a result, the native population left-behind taking part in elections would be a sub-sample (probably less Haitians-friendly) of the original Dominican population. However, that argument is unlikely to hold in practice for cultural, historical and economic reasons explained earlier. In particular, the poor state of the Haitian economy is a strong deterrent for any Dominican to cross the border. Indirect evidence supporting this claim can be found in the 2012 election data. In this election, Dominicans residing overseas were allowed for the first time to cast their ballots in 19 voting centres located in countries where the Dominican diaspora is deemed sizable enough. While polling stations were opened in the US, Panama, Canada, Spain, Venezuela and even Italy, none was opened in Haiti. This confirms that the Dominican population present in Haiti is negligible. Moreover, in 2010 the total stock of immigrants in Haiti represented less than 0.3% of the Haitian population<sup>6</sup>. I also directly test for (and refutes) internal migration or ‘native flight’ responses in a later section. Secondly, population growth in Haiti could create bilateral trade opportunities with the Dominican Republic. While Haiti exports virtually nothing to its neighbour according to official trade statistics (see Table A.6), Haiti is a non-negligible markets for Dominican exports. Through trade-generated employment, Dominicans’ political opinions could be affected. The idea of a relationship between trade, tolerance and peace is far from novel and can be traced to Montesquieu (1748)<sup>7</sup>. There is no data on trade with Haiti at the province or municipality levels. To account for the potential confounding channel brought by trade, in the regressions that are discussed next, in addition to controlling for the local unemployment rate as well as manufacturing and agriculture employment I also run regressions including a proxy variable for bilateral

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<sup>6</sup> World Development Indicators, 2016.

<sup>7</sup> “Peace is the natural effect of trade. Two nations who traffic with each other become reciprocally dependent; for if one has an interest in buying, the other has an interest in selling; and thus their union is founded on their mutual necessities.” Montesquieu, Charles Louis de Secondat. “De l’esprit des lois (1748).” Chapter II, Book XX.

trade defined at the provincial level. The identification assumption is thus that conditional on the included control variables distance-weighted population increase in Haiti has no effect on electoral outcomes other than through the share of Haitians present in a municipality's population. I also discuss alternative sensitivity checks in the results section.

The second instrument exploits the 2010 earthquake as source of exogenous variation to instrument for the inter-census change in local Haitian immigration. Gröger and Zylberberg (2016) and Henderson et al. (2017) have documented a strong link between environmental disasters and migration in developing countries. On January 12, 2010 a powerful earthquake of magnitude 7.0 on the Richter scale struck Haiti near the capital city Port-au-Prince. The quake claimed the lives of 250,000 individuals and displaced more than 1.5 million inhabitants (Kolbe et al. 2010). The capital city where more than half of the country's GDP was produced suffered substantial devastation and economic activities took a massive blow. The DR was not directly affected by the seism on the other hand. Haitians crossed the border with the DR in large numbers as a result. I instrument the change in Haitian migrant population stock with the inverse of the distance between a municipality's centroid and the earthquake epicentre (see Figure A.7). While distance to the epicentre as a variable is undeniably as good as randomly allocated, the exclusion restriction could potentially be violated due to some unobservable variables correlated with both proximity to the earthquake and political preferences. To address such concerns, I present and discuss several tests assessing the robustness of my results.

## 5 Results

### 5.1 Presidential and Congressional Elections

This section discusses the results on the effect of the share of Haitian migrants in the local population on electoral outcomes in the DR. I begin by looking at the strength of the instruments. Table 2 reports first-stage least squares estimates of Equation (1) using weighted population growth as IV in the first two columns and distance to the 2010 quake epicentre in the last two columns. For each instrumental variable, I present first stage results without and with region fixed effects. Distance-weighted population growth is positively and strongly associated with Haitian migration. This positive relationship suggests that greater population growth in Haiti is associated with higher migration, which is consistent with the descriptive evidence discussed earlier. The second instrument is also positively and statistically significantly associated with Haitian immigration. The sign of the coefficient indicates that municipalities closer to the epicentre have experienced a larger inter-census increase in the stock of Haitian migrants. Adding region fixed effects lowers the power of the two instruments but does not invalidate the identification strategy.

Two-stages least squares estimates of the impact of Haitian population concentration on vote shares in presidential elections are presented in Table 3. The first three columns consider the vote shares of the right-

wing PLD coalition as dependent variable. Centre PRD coalition votes feature as explained variables in columns 4 to 6. The last three columns consider support for the far-right FNP party instead. For each of these three outcome variables, I start by presenting first-difference estimates in the first column. I then present two-stage least squares results based on the population growth instrument and the inverse distance to the epicentre instrument. First-difference (FD) estimates reported in column 1 show that Haitian immigration is positively associated with PLD right-wing coalition's vote shares. Comparing estimates of the first column to the second and third, it appears that measurement error and reverse causation are biasing first-difference results downwards. The 2SLS point estimates of column 2 and 3 are positive and statistically significant at the 5% level. According to the results, a one percentage point increase in the stock of Haitians living among the municipality population leads to a 1.3 pp to 1.6 pp increase in the vote share of the right-wing PLD coalition. Instead, Haitian immigration is found to have a negative effect on support for the PRD-led coalition. The coefficient of column 6 suggests that a 1 pp increase in the share of Haitian migrants leads to a reduction of 0.2 pp of the centre PRD coalition vote share. The effect is not statistically significant at conventional levels however. The last three columns show that Haitian immigration has a small but positive and significant impact on the popularity of the far-right FNP party. According to these results, a one standard deviation increase in the Haitian migration rate entails an increase in the vote share of the PLD coalition amounting to 0.8 of its standard deviation. The same standard deviation increase in Haitian immigration leads to an increase of the FNP vote share approximately equal to one third of its standard deviation, as well as a reduction of the PLD coalition performance of a fourth of its standard deviation.

Immigration thus seems to create some amount of dissatisfaction among voters who turn to parties with an anti-Haitian agenda. On the whole, these results are consistent with 'resource-threat' theories. The local performance of the right-wing political coalition (including the FNP) tends to benefit from a larger concentration of Haitian immigrants.

Congressional elections are the focus of Table 4. The table is structured in a similar fashion as the previous one. The impact of exposure to Haitian immigrants on the vote share of the PLD coalition is also positive and statistically significant in 2SLS regressions. The magnitude of the effect is larger with a 2.1 pp increase in the vote share for every 1 pp increase in Haitian immigration. FD estimates are downward biased again. Columns 4 to 6 concentrate on PLD coalition support. The effect of exposure to migrants is still negative but becomes now significant at the 5% level. This finding is robust to the use of the two instruments. There is now more robust evidence that the performance of the centre coalition led by the PRD suffers in municipalities with more migrants. The FNP did not run in the 2002 race for congress. I cannot use time variation in its local performance here in consequence. Overall, these results support the finding that greater exposure to Haitian immigration translates into an increase in the popularity of the right-wing coalition parties. The centre-left coalition is penalised instead.

Two-stage least squares results generally suggest that first-difference estimates are downward biased. Measurement error is a likely source driving this bias. As discussed earlier, it is generally believed that

Haitian migration statistics are underreported. Reverse causation is another likely explanation for my results. While greater exposure to Haitian migrants cause natives to support right and far-right parties, Haitians are unlikely to settle in localities where hostility towards them is the highest. Answers from the 2012 National Survey of Immigrants reveal that Haitian migrants come to the DR to look for employment opportunities and better living conditions. The majority of migrants also report having friends or relatives already present in the DR before migrating. They are therefore likely to be aware (at least to some extent) of the local economic and social conditions migrants face in the places where they settle. Anecdotal evidence from news articles suggest that Haitian migrants prefer to settle in urban areas nowadays because they offer more opportunities but also a lower risk of discrimination and abuse (as cities provide migrants with more anonymity). Reverse causation implies that my OLS estimates should be downward biased, which is the case. Assuming bilateral trade reduces prejudice towards Haitians, it could also drive the downward bias found in FD regressions. I discuss (and address) bilateral trade related sources of bias in greater detail in the robustness check section.

Since the composition of the coalitions change over time, I run the analysis for the PLD and PRD vote shares only in Appendix Table A.7. Panel A concentrates on presidential elections, while Panel B considers congressional election outcomes. I find that Haitian immigration has a statistically significant effect on the vote shares of these two political parties in both election types. The magnitude of the point estimates is of the right sign but smaller (in absolute value) than in the coalition vote regressions, which is to be expected.

Another way through which voters can express their discontent is through abstention. Alternatively, some previously inactive voters could decide to cast their ballots when displeased with the country's immigration policy (Dustmann et al. 2016). To explore if any such voter behaviour can be seen in the DR, I perform the same regression analysis as earlier with presidential election turnout as outcome variable in what follows. I focus on presidential elections as data on turnout in congress elections is not available at the municipality level. The results are shown in Table 5. Overall I find no evidence that immigration creates some amount of dissatisfaction among voters. Results in the three columns show that Haitian immigration has a small and negative but insignificant impact on turnout.

## 5.2 Robustness tests

In this sub-section, I discuss several sensitivity tests. I begin by trimming off the tails of the migrant stock distribution. I exclude the top 5% municipalities that have experienced the largest increase in the stock of Haitian migrants over the period. Regression results are shown in Appendix Table A.8. The table is comprised of two panels. Panel A focuses on presidential election outcomes, while Panel B concentrates on congressional elections. The right-wing PLD coalition vote share is the dependent variable in the first three columns of each panel. Votes for the centre-left PRD coalition are analysed in the last three columns. For every dependent variable I show FD results as well as 2SLS estimates based on the two alternative instrumental variables. The population growth instrument now performs better in the first stage as pointed



out by the Kleibergen-Paap F-statistics shown at the bottom of the table. Overall the 2SLS results discussed previously are highly robust. Point estimates are somewhat larger than those discussed above. The positive effect of Haitian immigration on support for the PLD coalition is always positive and significant at the 5% level for both types of elections (columns 2 and 3). On the other hand inflows of Haitian migrants hurt the performance of the PRD coalition. The 2SLS estimates are negative but only significant for the congressional race.

As discussed above, bilateral trade is a potential confounder. However, if one makes the realistic assumptions that trade and population growth are positively correlated, and that trade creates more friendly attitudes among trade partners, the nature of the bias works against finding a positive relationship between immigration and support for the right-wing party. In that sense, my 2SLS estimates can be considered lower bounds of the true effect of immigration. To provide further support for my results, I use a proxy variable to control for bilateral trade. Regressions presented in Appendix Table A.9 control for the inter-census change in the number of operating special economic zone (SEZ) firms. This variable is defined at the province level<sup>8</sup> and is obtained from the Office for National Statistics. Special economic zones play a very important role in the Dominican economy. In 2008 free zone exports accounted for close to 70% of the country's total merchandise exports (World Bank 2011). In 2011 they were employing more than 125,000 individuals and during the last decade Haiti was one of their top 10 most important export markets<sup>9</sup> (CNFZE 2012). Regression results are barely affected by the inclusion of the number of operating SEZ firms despite the reduction in the power of the instruments. Haitian immigration is still found to generate an increase in the votes for the right-wing coalition (columns 2 and 3) and a reduction in support for the centre PLD coalition group (columns 5 and 6) in both presidential and congressional elections. The estimated 2SLS coefficients estimates are quite close to those of Tables 3 and 4.

Having two instrumental variables opens the possibility to estimate overidentified 2SLS regression coefficients. Appendix Table A.10 provides such estimates. The table contains two panels covering each a different election. The first two columns consider the PLD coalition performance. The last two columns concentrate on the PRD coalition. I estimate overidentified regressions with 2SLS and the Limited Information Maximum Likelihood (LIML) estimator. The two instruments taken together have weaker explanatory power than when taken individually. The coefficients are highly stable and close to those presented in Tables 3 and 4. Using the Limited Information Maximum Likelihood (LIML) estimator instead of 2SLS does not alter the results and conclusions previously drawn (see columns 2 and 4). Sargan tests of overidentified restrictions fail to reject the null hypothesis that the instruments are uncorrelated with the error term.

The two instruments used in the analysis are constructed using distance measures. Despite first differencing the data and the inclusion of region fixed effects it cannot be ruled out that the instruments capture the

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<sup>8</sup> There are 30 provinces in the dataset.

<sup>9</sup> As measured by the total number of firms exporting products to Haiti.

confounding influence of unobserved variables correlated with distance to the Haitian border. To address such concerns, I control for border distance (in km) in Appendix Table A.11. The results are not affected by this sensitivity check. Point estimates remain significant and of the same sign. The same conclusions can be thus drawn from the estimated coefficients with respect to the influence of Haitian immigration on electoral outcomes. My findings are not affected either if instead of controlling for municipality population I weight the regressions by the initial municipality population recorded in the 2002 census (Appendix Table A.12).

Given that the two countries share a border, they might be subject to some of the same shocks. In consequence, population growth in a region in Haiti might be correlated with shocks in a neighbouring municipality in the Dominican Republic. To test whether this is the case and weighs on my results, I drop border municipalities in Appendix Table A.13. Excluding the border municipalities leads to a loss of 15 municipalities (approximately 11% of the sample). Despite the weaker first stage that results from this sample size reduction, the main conclusion from the analysis prevails. For both presidential elections (Panel A) and congressional elections (Panel B), I find a positive impact of Haitian immigration on the vote share of the PLD right-wing coalition. The magnitude of the coefficients is in the same ballpark as the main results from Table 3 as well. The effect on the PRD coalition performance remains negative but is now insignificant in each election type.

Haitian migration flows from Haiti to the DR are relatively modest from the point of view of Haiti's population. While *in theory* changes in population growth in a region in Haiti could be endogenous to local conditions in a municipality in the DR if flows between them are quite large, this is not very likely *in practice*. For economic shocks in a single Dominican municipality to affect the population growth of entire Haitian departments, such shocks would need to be of a huge size and concentrated in a municipality with an important stock of migrants. This seems relatively unlikely in practice. Nonetheless, as an additional robustness check I show in Appendix Table A.14 that my results hold if I exclude the municipalities of the province of Santo Domingo, the province where the economic capital of the country is<sup>10</sup>.

I apply these robustness checks to the vote share of the far-right FNP party in Table 6. In the first two columns of the table, I control for the number of SEZ firms in activity. The results of both columns indicate that a 1 pp increase in the share of Haitian migrants leads to a 0.11 pp increase in vote share of the FNP. Controlling for distance to the border instead does not affect much the previous results. The point estimates are now larger and equal to approximately 0.13 pp (columns 3 and 4). In the next two columns I report population weighted regressions. The results are essentially unchanged. I take advantage of having two instruments and report overidentified regressions in the last two columns. I still find a positive and statistically significant effect of immigration on support for the far right party.

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<sup>10</sup> It is also the political capital.

My results could be contaminated by native flight, i.e., the internal migration response of Dominican natives. The voters most negatively affected by or opposed to immigration are the most likely to leave (Mocetti and Porello 2010; Sá 2014). Assuming it is the case over the study period, my results would likely underestimate the true effect of Haitian immigration on election outcomes in consequence. To test for any native mobility response across municipalities, I follow Peri and Sparber (2011) and Lewis and Peri (2014) and estimate Equation (4) below:

$$\frac{\Delta N_{m,p,r}}{P_{m,t-1}} = \gamma_1 \cdot \frac{\Delta H_m}{P_{m,t-1}} + \Delta X'_{p-m} \cdot \gamma_2 + \varphi_r + \Delta v_{m,p,r} \quad (4)$$

where  $\Delta N_m$  is the change in native population in municipality  $m$ ,  $P_{m,t-1}$  is the initial population size of the municipality, and  $\Delta H_m$  is the change in the stock of Haitian migrants as defined previously. I abstract from the skill-experience cell dimension typically used in the literature on immigration and labour market outcomes because I am interested in the whole population and not only the labour force. First-difference and 2SLS results are presented in Table 7. On the whole the results provide no evidence of any significant internal mobility response of natives. The 2SLS estimates are negative and non-significant. In other words, the results suggest no significant displacement effect. This is to be expected in the Dominican context. Internal migration mainly occurs from rural areas, and migrating abroad is a costly and long-term strategy that is unlikely to be related to Haitian immigration. Consequently, these findings do not cast doubt on the validity of the analysis conducted so far.

In sum, I find solid evidence of a positive relationship between Haitian immigration and support for right-wing and far-right political parties. At the same time higher immigration leads to a reduction in the support for centre-left parties. These findings hold for both presidential and congressional elections. They are also in line with those of Barone et al. (2016) and Dustmann et al. (2016) for the cases of Italy and Denmark. Contrary to these two previous studies, I do not find any effect on turnout at the polls in municipalities more exposed to migrants inflows.

## 6 Channels

The association between Haitian immigration and the political success of right-wing parties found above could be driven by several channels, including labour market competition, welfare state concerns, crime, political competition, and perceived cultural threat. This section seeks to understand which of these channels are most relevant in the Dominican context.

### 6.1 Channels and elections

In this section I explore the transmission mechanisms going from immigrant exposure to native voting behaviour. I first rely on interaction terms to provide causal evidence of the relevant channels. I consider

nine variables measured in the baseline period in levels to proxy for initial characteristics. Unless stated otherwise these characteristics are measured in 2002 at the province level. I instrument the interaction between Haitian immigration and a given channel by multiplying distance to the earthquake with that channel. Second, I investigate the effect of immigration on unemployment. Third, I look at the impact of immigration on coalition fragmentation.

### *6.1.1 Baseline Municipal Characteristics*

I start by discussing the results of the interactions with baseline provincial or municipal characteristics. The results are shown in Table 8 where the dependent variable is the vote share of the PLD coalition in presidential elections. I begin with municipality population in column 1. Supportive of previous results, the baseline coefficient is positive and statistically significant. The interaction however is negative and significant, suggesting that the impact of migration inflows is weaker in more populated areas. The effect even turns negative in municipalities at and above the 92<sup>nd</sup> percentile of the population distribution. This is consistent with the findings of Dustmann et al. (2016) in Denmark for instance.

The next two characteristics I focus on are the initial dependency ratio and the population share of individuals aged 65 years and above (both from the 2002 census). These measures aim at assessing the cultural and the public taxation and services channels. Children and the elderly tend to use public services relatively more than the average population. They are also eligible to receive various welfare benefits. Older people are also more likely to care about Dominican values and culture whereas parents with young children might be afraid that exposure to Haitian migrants affects the beliefs and values their offspring are brought up with. Despite the possible relevance of this channel, I find that the interactions are negative but insignificant suggesting these channels might not be the most pertinent in the Dominican context (columns 2 and 3).

Haitian migrants are predominantly low skilled workers and a large fraction work in agriculture. In order to evaluate the labour market competition channel, I focus on three variables: employment in agriculture, the share of adults with a primary education, and the unemployment rate. The results in columns 4 to 6 show that the labour market channel does not matter much when measured with those variables. While the baseline coefficients are positive, the interactions are not. This is not too surprising given the division of labour generally in place in the DR. Dominicans tend to stay away from low skilled and physically difficult tasks such as construction or plantation work. As a result Haitians do not threaten much the labour prospects of natives.

I concentrate next on political factors. I consider the initial performance of the PLD coalition in the 2004 elections (i.e., at the beginning of the timeframe studied). I also look at political competition measured as the absolute difference between the vote share of the PLD and PRD coalitions in 2004. The higher the value of this variable the lower is the local competition between the two parties. Both these variables are constructed at the municipal level. Baseline coefficients in columns 7 and 8 are positive and significant. The

initial PLD performance interaction is negative and significant suggesting that the impact of Haitian migration is higher in places where the PLD did not perform well in 2004. It is not obvious to provide an explanation for this result. One possibility is that voters might believe the PLD to be capable of addressing their migration related concerns more when they have no experience with the party. Also, it is possible that voters might trust the PLD party discourse on migration and turn to this party following their experience with the more liberal PRD. Interestingly, the political competition interaction is negative and statistically significant. This implies that in closely contested municipalities immigration seems to have a higher impact on PLD coalition support suggesting that natives might perceive Haitian migrants as threats to local (and national) political equilibria.

The last channel I explore is violence and crime. Foreigners might be perceived as more likely to engage in petty criminal activities. It is also common for anti-migration propaganda to exploit the fear of natives to rally support. I interact Haitian migration with homicide rates measured at the province level (per 10,000 inhabitants). I use 2007 data as it is the earliest for which homicide statistics are available. The baseline coefficient in column 9 is positive and statistically significant, but the interaction is not. Despite political rhetoric linking immigration and crime, there is no evidence that migration has a different impact in more violent provinces. Most Haitians come to the DR to work and find better living conditions, and it is unlikely that they engage in criminal activities in a disproportionate way.

### 6.1.2 *Migration & Natives Unemployment*

To make the most of my municipality panel dataset I evaluate next whether immigration has any effect on native unemployment rates. Evidence of a positive effect would suggest that the labour market competition channel is still relevant. To be consistent with the previous analysis, I follow the area approach in the literature on the labour market impact of immigration (see e.g., Dustmann et al. 2005, Lewis and Peri 2014). I estimate Equation (5) below using the two previously defined instrumental variables, and with  $L_m$  standing for the unemployment rate of Dominican natives in the municipality. The other variables are defined as earlier.

$$\Delta L_{m,p,r} = \lambda_1 \cdot \frac{\Delta H_m}{P_{m,t-1}} + \Delta X'_{p-m} \cdot \lambda_2 + \varphi_r + \Delta \zeta_{m,p,r} \quad (5)$$

The results are displayed in Table 9. The first column shows first difference estimates. Columns 2 and 3 contain 2SLS estimates from the main specification based on the two different instruments. The next two columns control for SEZ firms, while the last two columns include distance to the border in the list of covariates. The association between Haitian migration and unemployment in column 1 is negative and insignificant. This negative association is likely to be partly driven by reverse causation with Haitian immigrants settling in municipalities with more buoyant labour markets. The 2SLS estimates based on the preferred specification in columns 2 and 3 change sign. They are positive but not significant. Results from alternative specifications in the next columns are similar in substance. Overall, there is no evidence of

Haitian immigration harming the labour market prospects of Dominican natives. These results further cast doubt on the validity of the labour market channel in explaining the electoral results of section 5.

Given the limited power of the identification strategy in this section so far, I rely on opinion survey data in the sub-section 6.2 to provide more evidence on the mechanisms driving the association between immigration and electoral outcomes.

### 6.1.3 *Political fragmentation*

Given that the number of parties involved in the PLD coalition increased between 2004 and 2012, I use a measure of political fractionalization as additional outcome variable to test whether immigration lowers the concentration of power among the two major coalitions and gives a more prominent role to smaller parties.

I have constructed for the presidential elections of 2004 and 2012 indices of fractionalisation for the PLD and PRD coalitions<sup>11</sup>. These indices were calculated in levels and logs and first differenced. Appendix Table A.15 displays regressions based on the baseline regression model of the paper with these indices as dependent variable. Panel A concentrates on the PLD coalition and Panel B on the PRD coalition. In each panel, I present OLS and 2SLS estimates of the effect of immigration on the fractionalization index measured in level and in log. The results in the table make it clear that immigration has a positive and significant effect on the fragmentation of the PLD coalition. Both the OLS and IV results are positive and significant at the 5 percent level. The point estimates in Panel A column 6 suggest that a 1 percentage point increase in immigration translates in a 6.2 percent increase in the right wing coalition fractionalisation. Haitian immigration doesn't seem to have much impact on the structure PRD coalition on the other hand. These findings indicate that immigration causes the fragmentation of the political right and reduces the power the leading PLD party holds. As a result, in order to govern the PLD party had to form a larger coalition of parties to gather enough votes.

## 6.2 **Opinion survey data**

The analysis conducted here is more of a descriptive nature and relies on the 2010 wave of the *AmericasBarometer* - Latin American Public Opinion Project (LAPOP) surveys collected by Vanderbilt University. The nationally representative survey interviews about 1,500 Dominicans about their opinions regarding a wide range of political and social issues. Information on the socio-economic characteristics of respondents is also collected. Of particular interest, the 2010 wave contains a battery of questions regarding Haitian immigration and information on the municipality of residence of respondents. It also asks respondents which party they would vote for if congressional elections were held on the interview day.

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<sup>11</sup> The index of fractionalisation  $F$  for coalition  $c$  is defined as follows:  $F^c = (1 - \sum p_j^2) * 100$ , where  $p_j$  refers to the number of votes for party  $j$  divided by the total number of votes for coalition  $c$  to which party  $p$  belongs. The index is essentially equal to 1 minus the Herfindahl index of vote concentration of each coalition.

### 6.2.1 Methodology

To the greatest extent possible, I follow the approach of Dahlberg et al. (2012) who analyse the effect of ethnic diversity on preferences for redistribution in Sweden. I estimate linear probability model equations of the following form by 2SLS:

$$A_{i,m,r} = \mu_0 + \mu_1 \cdot \frac{H_m}{P_m} + C'_{i,m} \cdot \mu_2 + \varphi_r + \eta_{i,m,r} \quad (6)$$

where  $i$ ,  $m$ , and  $r$  denote individuals, municipalities, and regions respectively.  $A_{i,m,r}$  refers to individual attitudes towards migrants or party preferences.  $C_{i,m}$  is a vector of individual and municipality covariates,  $\varphi_r$  are region fixed-effects,  $\mu_k$  are the parameters to be estimated, and  $\eta_{i,m,r}$  is the error term. I estimate heteroskedasticity-robust standard errors clustered at the municipality level.

As before, the results obtained from estimating equation (6) with OLS are certain to suffer from endogeneity issues. In an attempt to address these issues, the share of Haitians in the municipality population  $\frac{H_m}{P_m}$  is instrumented with the inverse distance from the municipality centroid to the border with Haiti. While the instruments in the previous section were instrumenting changes, here an instrument for the levels is needed. The identifying assumption is that distance to the border has no effect on individual attitudes and voting intentions other than through the share of Haitians in the local population after controlling for region fixed effects and covariates. This is a rather strong assumption. Proximity to Haiti could be correlated with trade. Assuming trade and attitudes towards foreigners are positively correlated, my results could be underestimated. The results I discuss next are robust to controlling for the number of SEZ firms in operation. Proximity might also have a direct effect on attitudes towards Haitians, and in the regions near the border especially. Given the theoretical ambiguity with respect to the role of exposure and proximity in ‘group threat’ theories and the Contact Hypothesis, it is hard to anticipate the direction of any possible bias. The inclusion of region fixed-effects reduces the likelihood of bias however. First-stage least squares results indicate that distance to the border does a reasonable job at predicting Haitian immigrant concentration with F-statistics on the excluded instrument ranging from 7.10 to 9.62 depending on the sample size (Appendix Table A.17).

### 6.2.2 Data

I focus on seven highly relevant survey questions to try to identify the channels at play. The first question deals with the issue of citizenship and asks respondents: “Do you agree with the children of Haitian immigrants born in the DR being Dominican citizens?” Answers can range from 1 (strongly disagree) to 7 (strongly agree). I dichotomise this variable with values  $\{1,2,3\}$  being now equal to 1 and the remaining answer values  $\{4,5,6,7\}$  set to 0. The new dummy variable effectively measures opposition to granting citizenship to Haitian second generation immigrants. The second question focuses on access to public

services and asks: “Do you agree with the Dominican government offering social services to undocumented migrants?” Responses can vary between 1 (strongly agree) and 5 (strongly disagree). Once again? I dichotomise this variable with values {4,5} set to 1 and the rest {1,2,3} to 0. I also create a binary variable from the answers to the question: “The government should implement strong policies to reduce income inequality between the rich and the poor. To what extent do you agree or disagree with this statement?”. Answers again range from 1 (strongly disagree) to 7 (strongly agree) and I assign a value of 1 to the responses {1,2,3}, and 0 otherwise. Next, I consider a question looking at immigrants and job competition. The phrasing goes as follows: “In general, would you say that people from other countries coming to live here do jobs Dominicans don’t want to do (1), or take jobs away from Dominicans (2)?” I rescale the answers of the question to obtain an indicator variable equal to 1 if respondents believe Haitian migrants take jobs away from Dominicans, and zero otherwise. In addition, I exploit the responses to the following question on work permits: “To what extent do you agree with the government granting work permits to undocumented Haitians living in the Dominican Republic - 1 (strongly disagree); 7 (strongly agree)?”. I dichotomize again the answers given to create a variable capturing opposition to work permits provision. All the binary indicators created so far are scaled to measure anti-Haitian attitudes, i.e., a value of 1 means more antagonistic attitudes. I also include a question on insecurity phrased as follows: “Speaking of the neighbourhood where you live and thinking about the possibility of being the victim of an assault or robbery, do you feel very secure, somewhat secure, somewhat insecure or very insecure?” I create a dummy equal to 1 for respondents feeling somewhat insecure or very insecure. Last but not least, I take advantage of the following question: “If the congressional elections were held today, who would you vote for: PLD, PRD, others?” Based on answers provided, I create two indicator variables equal to one if the respondent stated voting for the PLD or the PRD, and zero otherwise. Appendix Table A.16 presents descriptive statistics of these variables. In the sample, 46.3% of the respondents declare disagreeing with second generation immigrants being Dominicans. Another 33.4% disagree with undocumented migrants accessing social services, while 40.7% think immigrants take natives’ jobs. More than half of the respondents say they would vote for the PLD and only a fourth support the PRD.

To explain attitudes and voting intentions, I control for a set of explanatory variables commonly used in the literature on attitudes towards immigration (see e.g., O’Rourke and Sinnott 2006; Facchini et al. 2013). I try to use parsimony in the selection of controls and I restrict the list to covariates that are arguably the most exogenous. These consist of demographic characteristics, religious belief<sup>12</sup>, and ethnicity controls. Summary statistics of these variables can also be found in Appendix Table A.16. In the sample, more than 67% of individuals self-identify as Mestizo, and another 10% identify as Black. Whites and Mulattos both represent about 10% of the sample. Only 1% does not identify as part of one of these four groups and is likely to be comprised of ethnic Chinese, Syrians and Lebanese. The average interviewed individual is 41 years old, has completed close to nine years of education, and lives in a household with three children. Half

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<sup>12</sup> Exposure to migrants could affect religious beliefs. The results in this section are robust to the exclusion of religion related covariates.



of the respondents are women (51.0%), slightly more than a fourth live in rural areas, and 22.5% report being married. In terms of religious beliefs, more than 60% of the individuals are Roman Catholics. Evangelists and Protestants respectively constitute 18.1% and 5.5% of the respondents. This is line with national averages.

### 6.2.3 Findings

Results on voting intentions are reported in Table 10. The first two columns consider voting intentions for the PLD as explained variable. The last two columns focus on intentions to vote for the PRD. For each dependent variable I report OLS and 2SLS estimates. Haitian migrant concentration appears to have a strong, positive and statistically significant effect on the probability to vote for the migrant-hostile PLD. The coefficient point estimates indicate that a 1 pp increase in the share of Haitians in the municipality population is linked with a 13.6 pp higher probability of supporting the right-wing PLD. On the contrary, higher migrant presence is associated with a lower probability of supporting the PRD. These results are consistent with the previous findings reported in section 5. The 2SLS estimates are larger than the OLS estimates in both cases. This finding can be explained by attenuation bias stemming from measurement error as well as reverse causation with migrants avoiding highly hostile municipalities.

Table 11 reports the estimated effect of Haitian immigration on attitudes. I begin with the labour market channel. Greater migrant concentration is found to have a positive and significant effect at the 10% level on the likelihood of believing that immigrants take jobs from natives. However, exposure to immigration does not affect views on work permits provision (columns 1 to 4). Again the evidence in favour of this channel is weak at best. Looking at the welfare state channel next, Haitian concentration does not appear to influence opinions on whether undocumented migrants should be allowed to access social benefits. It does not affect preferences towards redistribution either (see columns 5 to 8). This is perhaps not too surprising since Haitians have been excluded so far from the provision of most social services. As such, immigrants do not represent a threat to natives' access to welfare programs. Opinions on the citizenship rights of second generation Haitian immigrants are found to be strongly influenced by the local presence of Haitians. Greater migrant concentration is associated with a higher and statistically significant probability of disagreeing with granting citizenship on *jus soli* grounds to children with Haitian parents (column 9). This suggests natives might worry about the influence Haitians could have on political outcomes and cultural identity in the long run. Lastly, exposure to Haitians does not appear to affect feelings of insecurity. This is consistent with the earlier results.

In sum, these results tend to confirm the previous findings based on election results and interaction terms. Given the cross-sectional nature of the data analysed in this section and the various issues characterising opinion surveys (see e.g., Bertrand and Mullainathan 2001), the evidence presented in this section is not as solid as the election results described earlier. Some interesting patterns still emerge from the data and suggest that the welfare state channel might not be the primary concern driving attitudes towards Haitian

migrants and electoral preferences. Labour market competition is found to have an ambiguous influence on individual attitudes but overall does not seem to be the primary concern of Dominicans either. Citizenship rights, political equilibria, and plausibly cultural identity seem to be the most important channels shaping Dominican electoral behaviour and individual attitudes. This result is consistent with anecdotal evidence and findings reported by anthropologists, political scientists and sociologists studying the Dominican case (see e.g. Sagás 2000; Howard 2001; Morgan et al. 2011). Finally, the PLD and its coalition seems to be seen as the political party natives turn to in order to express their concerns over Haitian immigration and citizenship issues.

## 7 Conclusion

This paper analyses the impact of immigration on electoral outcomes in the DR. In recent years it has received large inflows of migrants from neighbouring Haiti. With migration being a highly salient issue in the two countries, this setting offers a very exciting research context. The analysis is based on a municipality panel dataset comprising presidential and congressional election results as well as two housing and population census waves. To account for the endogeneity of Haitian immigrant location decisions, I rely on two different instrumental variables exploiting exogenous migration push factors.

I find robust evidence that immigration impacts voting behaviour and election results. In municipalities with larger stocks of Haitian migrants, natives are more inclined to vote for the right-wing coalition characterized by a more negative stance towards Haitians. The popularity of the main far right political party also increases in such municipalities. At the same time, greater population diversity has a significantly negative effect on the electoral success of the main rival coalition party with a centre-left political agenda. The analysis of mechanisms based on election data and opinion surveys suggests that the main channels through which immigration impacts voting preferences may be citizenship rights and political competition, as well as cultural identity. These results suggest that the spatial distribution of Haitian migrants may have important consequences in terms of local political outcomes and the degree of hostility of natives towards foreigners.

This paper provides empirical evidence that immigration is not a salient societal issue specific to developed countries. It shows that in developing countries alike, voters tend to turn to parties with anti-migration platforms when exposed to migrant populations. In other words, natives tend to provide increased support to right-wing and extreme-right political parties in both country settings. In terms of external validity, this paper speaks to other democratic developing countries experiencing immigration from countries with cultural and linguistic differences. Overall, I shed light on an important political economy consequence of immigration and open the door to further analysing it in developing country settings.

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## Main Tables & Figures

**Table 1: Immigration in the Dominican Republic**

	2002	2010
	Total country population	
Total Dominican population	8,562,541	9,445,281
Born in the DR	8,466,308	9,058,779
Foreign-born	96,233	386,502
	Haitian immigrant population in the DR	
Born in Haiti	61,863	311,969
Share of total country population	0.72%	3.30%
Share of immigrant population	64.28%	80.72%

Data source: ONE 2002 and 2010 national censuses

**Table 2: First stage least squares results**

	(1)	(2)	(3)	(4)
	Dependent variable: Haitian migrants stock (%)			
IV: distance weighted population growth	0.581*** (0.144)	0.748** (0.289)		
IV: inverse distance to quake epicentre			1.190*** (0.295)	1.534*** (0.534)
Dependency ratio (%)	-1.345*** (0.406)	-0.413 (0.440)	-1.586*** (0.372)	-0.273 (0.485)
Secondary education (%)	-0.551** (0.255)	0.0115 (0.390)	-0.578** (0.243)	0.0522 (0.368)
Tertiary education (%)	-1.834*** (0.416)	-1.420*** (0.448)	-2.052*** (0.400)	-1.518*** (0.463)
Unemployment rate (%)	-0.163 (0.143)	-0.0726 (0.183)	0.0212 (0.135)	-0.0548 (0.167)
Agriculture employment (%)	-0.352*** (0.107)	-0.195 (0.125)	-0.424*** (0.117)	-0.244* (0.135)
Manufacturing employment (%)	-0.338*** (0.114)	-0.477*** (0.107)	-0.375*** (0.109)	-0.472*** (0.110)
Municipality population (000's)	0.0161*** (0.00470)	0.0187*** (0.00455)	0.0161*** (0.00429)	0.0184*** (0.00434)
IV F-statistic	16.25	6.69	16.32	8.24
Region FE		Y		Y
Number of municipalities	134	134	134	134
R-squared	0.642	0.728	0.668	0.740

Notes: Robust standard errors in parentheses clustered at the municipality level. First difference regressions. Data sources: Dominican National Office for Statistics (ONE), Haitian Institute for Statistics (IHSI). See text for definition of covariates. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.



**Table 3: Presidential Election Results**

Dependent variable:	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	PLD coalition vote share			PRD coalition vote share			FNP vote share		
	FD	FD-2SLS		FD	FD-2SLS		FD	FD-2SLS	
Haitian immigrants	0.289 (0.217)	1.643** (0.646)	1.347** (0.553)	0.194 (0.132)	-0.331 (0.405)	-0.226 (0.371)	0.0213 (0.0179)	0.111* (0.0636)	0.113* (0.0584)
Dependency ratio (%)	-1.638* (0.982)	-0.316 (1.143)	-0.605 (1.087)	-0.240 (0.708)	-0.754 (0.713)	-0.650 (0.697)	-0.0690 (0.0903)	0.0185 (0.125)	0.0200 (0.120)
Secondary education (%)	-1.411** (0.682)	-1.681* (1.016)	-1.622* (0.915)	0.333 (0.532)	0.437 (0.645)	0.416 (0.612)	-0.0461 (0.0737)	-0.0639 (0.0694)	-0.0642 (0.0699)
Tertiary education (%)	-0.538 (0.738)	1.327 (1.083)	0.920 (0.981)	1.693*** (0.559)	0.969 (0.694)	1.115* (0.661)	0.0245 (0.0887)	0.148 (0.134)	0.150 (0.128)
Unemployment rate (%)	0.276 (0.226)	0.385 (0.382)	0.361 (0.341)	-0.185 (0.200)	-0.228 (0.232)	-0.219 (0.221)	0.0102 (0.0280)	0.0175 (0.0335)	0.0176 (0.0336)
Agriculture employment (%)	-0.250 (0.253)	-0.0608 (0.326)	-0.102 (0.299)	-0.128 (0.216)	-0.202 (0.211)	-0.187 (0.205)	-0.0222 (0.0208)	-0.00964 (0.0228)	-0.00942 (0.0220)
Manufacturing employment (%)	-0.243 (0.214)	0.498 (0.382)	0.336 (0.334)	-0.0530 (0.170)	-0.341 (0.230)	-0.283 (0.218)	0.0202 (0.0269)	0.0692 (0.0515)	0.0701 (0.0487)
Municipality population (000's)	-0.0206 (0.0132)	-0.0460** (0.0197)	-0.0405** (0.0179)	0.00813 (0.0147)	0.0180 (0.0171)	0.0160 (0.0165)	-0.000181 (0.00114)	-0.00186 (0.00169)	-0.00189 (0.00161)
IV: population growth		Y			Y			Y	
IV: distance to epicentre			Y			Y			Y
Kleibergen-Paap F-statistic		6.69	8.24		6.69	8.24		6.69	8.24
Region FE	Y	Y	Y	Y	Y	Y	Y	Y	Y
Number of municipalities		134	134		134	134		134	134
R-squared	0.474			0.846			0.160		

Notes: Robust standard errors in parentheses clustered at the municipality level. First difference regressions. Data sources: Dominican Central Electoral Board, Dominican National Office for Statistics (ONE), Haitian Institute for Statistics (IHSI). See text for definition of covariates. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

**Table 4: Congressional election results**

Dependent variable:	(1)	(2)	(3)	(4)	(5)	(6)
	PLD coalition vote share			PRD coalition vote share		
	<u>FD</u>	<u>FD-2SLS</u>		<u>FD</u>	<u>FD-2SLS</u>	
Haitian immigrants	0.432 (0.392)	2.165** (0.857)	2.085** (0.839)	0.00765 (0.142)	-1.220** (0.578)	-0.974** (0.474)
Dependency ratio (%)	-5.419** (2.215)	-3.727 (2.575)	-3.805 (2.560)	0.572 (0.950)	-0.627 (1.125)	-0.386 (1.066)
Secondary education (%)	-0.522 (1.103)	-0.867 (1.355)	-0.851 (1.322)	0.284 (0.605)	0.528 (0.746)	0.479 (0.678)
Tertiary education (%)	-0.00665 (1.572)	2.381 (1.996)	2.270 (1.977)	0.354 (0.791)	-1.337 (1.044)	-0.998 (0.941)
Unemployment rate (%)	-0.425 (0.478)	-0.285 (0.622)	-0.291 (0.618)	0.141 (0.221)	0.0415 (0.341)	0.0614 (0.310)
Agriculture employment (%)	0.0841 (0.439)	0.326 (0.543)	0.315 (0.537)	-0.451** (0.224)	-0.622** (0.295)	-0.588** (0.271)
Manufacturing employment (%)	-1.080*** (0.355)	-0.131 (0.614)	-0.175 (0.598)	-0.273 (0.206)	-0.946** (0.386)	-0.811** (0.325)
Municipality population (000's)	-0.0719** (0.0280)	-0.104*** (0.0306)	-0.103*** (0.0299)	0.0308*** (0.0116)	0.0538*** (0.0152)	0.0492*** (0.0136)
IV: population growth		Y			Y	
IV: distance to epicentre			Y			Y
Kleibergen-Paap F-statistic		6.69	8.24		6.69	8.24
Region FE	Y	Y	Y	Y	Y	Y
Number of observations	134	134	134	134	134	134
R-squared	0.910			0.480		

Notes: Robust standard errors in parentheses clustered at the municipality level. First difference regressions. Data sources: Dominican Central Electoral Board, Dominican National Office for Statistics (ONE), Haitian Institute for Statistics (IHSI). See text for definition of covariates. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

**Table 5: Presidential election turnout**

	(1)	(2)	(3)
	Dependent variable: Turnout		
	FD	FD-2SLS	
Haitian immigrants	-0.0434 (0.0490)	-0.171 (0.141)	-0.195 (0.125)
Dependency ratio (%)	0.907 (0.580)	0.782 (0.586)	0.758 (0.582)
Secondary education (%)	0.479 (0.403)	0.505 (0.383)	0.509 (0.386)
Tertiary education (%)	-0.00412 (0.307)	-0.180 (0.345)	-0.213 (0.334)
Unemployment rate (%)	-0.168** (0.0811)	-0.178*** (0.0688)	-0.180*** (0.0679)
Agriculture employment (%)	-0.0900 (0.0734)	-0.108 (0.0724)	-0.111 (0.0731)
Manufacturing employment (%)	-0.102 (0.0760)	-0.172** (0.0730)	-0.186** (0.0753)
Municipality population (000's)	0.000708 (0.00357)	0.00310 (0.00410)	0.00356 (0.00390)
IV: population growth		Y	
IV: distance to epicentre			Y
Kleibergen-Paap F-statistic		6.69	8.24
Region FE	Y	Y	Y
Number of municipalities	134	134	134
R-squared	0.515		

Notes: Robust standard errors in parentheses clustered at the municipality level. First difference regressions. Data sources: Dominican Central Electoral Board, Dominican National Office for Statistics (ONE), Haitian Institute for Statistics (IHSI). See text for definition of covariates. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

**Table 6: FNP vote - sensitivity checks**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Sensitivity check:	Special Economic Zone firms		Distance to the border		Weighted regressions		Overidentified regressions	
	<u>2SLS</u>		<u>2SLS</u>		<u>2SLS</u>		<u>2SLS</u>	<u>LIML</u>
Haitian immigrants	0.112* (0.0652)	0.113* (0.0595)	0.128* (0.0692)	0.126** (0.0636)	0.135 (0.0881)	0.144* (0.0864)	0.114** (0.0569)	0.114** (0.0569)
IV: population growth	Y		Y		Y		Y	
IV: distance to epicentre		Y		Y		Y		Y
Kleibergen-Paap F-stat.	6.24	7.77	7.91	10.22	5.65	5.43	4.30	4.30
Region FE	Y	Y	Y	Y	Y	Y	Y	Y
Covariates	Y	Y	Y	Y	Y	Y	Y	Y
Number of municipalities	134	134	134	134	134	134	134	134

Notes: Dependent variable is FP vote share in presidential elections. Robust standard errors in parentheses clustered at the municipality level. First difference regressions. Data sources: Dominican Central Electoral Board, Dominican National Office for Statistics (ONE), Haitian Institute for Statistics (IHSI). See text for definition of covariates. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

**Table 7: Native flight regressions**

	(1)	(2)	(3)
Dependent variable: Native population			
	FD	FD-2SLS	
Haitian immigrants	0.461 (0.456)	-1.271 (1.031)	-0.540 (0.947)
IV: distance population growth		Y	
IV: distance to epicentre			Y
Kleibergen-Paap F-statistic		6.69	8.24
Region FE	Y	Y	Y
Covariates	Y	Y	Y
Number of municipalities	134	134	134
R-squared	0.445		

Notes: Robust standard errors in parentheses clustered at the municipality level. First difference regressions. Data sources: Dominican Central Electoral Board, Dominican National Office for Statistics (ONE), Haitian Institute for Statistics (IHSI). See text for definition of covariates. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

**Table 8: Immigration and local characteristics**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Dependent variable: PLD coalition vote share								
Haitian immigrants	1.311** (0.512)	2.457 (1.824)	4.433 (4.445)	1.849*** (0.715)	4.140 (4.460)	2.488 (1.660)	8.109*** (1.097)	1.538*** (0.582)	1.320** (0.592)
Haitian imm. * municipality population	-0.00776*** (0.00250)								
Haitian imm. * elderly population		-0.167 (0.299)							
Haitian imm. * dependency ratio			-0.0671 (0.0984)						
Haitian imm. * agriculture employment				-0.0313 (0.0295)					
Haitian imm. * primary education					-0.0582 (0.0933)				
Haitian imm. * unemployment rate						-0.0588 (0.0815)			
Haitian imm. * initial PLD coalition vote							-0.178*** (0.0336)		
Haitian imm. * political competition								-0.112*** (0.0208)	
Haitian imm. * homicide rate									-0.0593 (0.251)
Cragg-Donald F statistic	11.47	13.36	7.33	11.76	11.87	7.07	6.28	8.79	2.97
Kleibergen-Paap F statistic	4.01	5.31	7.46	4.14	4.21	5.31	5.64	4.11	2.55
Covariates	Y	Y	Y	Y	Y	Y	Y	Y	Y
Region FE	Y	Y	Y	Y	Y	Y	Y	Y	Y
Number of municipalities	134	134	134	134	134	134	134	134	134

Notes: Robust standard errors in parentheses clustered at the municipality level. First difference regressions. Data sources: Dominican Central Electoral Board, Dominican National Office for Statistics (ONE). See text for definition of covariates. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

**Table 9: Native unemployment rate**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Specification:	Main specification	Main specification		SEZ firms	Distance to the border		
	FD	FD-2SLS		FD-2SLS	FD-2SLS		
Haitian immigrants	-0.0236 (0.0925)	0.280 (0.270)	0.104 (0.222)	0.299 (0.279)	0.116 (0.223)	0.104 (0.220)	-0.0432 (0.203)
IV: population growth		Y		Y		Y	
IV: distance to epicentre			Y		Y		Y
Kleibergen-Paap F-statistic		6.69	8.24	6.24	7.77	7.91	10.22
Region FE	Y	Y	Y	Y	Y	Y	Y
Covariates	Y	Y	Y	Y	Y	Y	Y
Number of municipalities	134	134	134	134	134	134	134

Notes: Dependent variable is native unemployment rate. Robust standard errors in parentheses clustered at the municipality level. First difference regressions. Data sources: Dominican Central Electoral Board, Dominican National Office for Statistics (ONE), Haitian Institute for Statistics (IHSI). See text for definition of covariates. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

**Table 10: Opinion survey - voting intentions**

Dependent variable:	(1)	(2)	(3)	(4)
	PLD vote		PRD vote	
	OLS	2SLS	OLS	2SLS
Haitian immigrants	0.00652 (0.00778)	0.136*** (0.0410)	-0.0137* (0.00733)	-0.115*** (0.0336)
Covariates	Y	Y	Y	Y
Region FE	Y	Y	Y	Y
Kleibergen-Paap F statistic		7.10		7.10
Observations	1,154	1,154	1,154	1,154
R-squared	0.036		0.039	

Notes: OLS and 2SLS estimates. Robust standard errors clustered at the municipality level in parentheses. LAPOP 2010 individual opinion survey. Haitian immigrant population instrumented with inverse distance to border. Variables described in text. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.



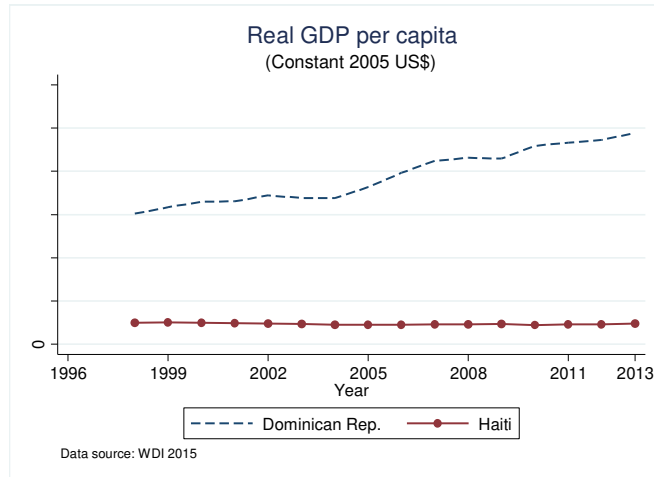
**Table 11: Opinion survey - channels**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Channels:	Labour market competition				Welfare state - tax burden				Citizenship and identity		Violence and insecurity	
Dependent variable:	Job competition		Work permits		Public services		Redistribution		Citizenship		Insecurity	
	OLS	2SLS	OLS	2SLS	OLS	2SLS	OLS	2SLS	OLS	2SLS	OLS	2SLS
Haitian immigrants	-0.00400 (0.00681)	0.0387* (0.0213)	0.00962 (0.00757)	-0.0466 (0.0306)	0.00640 (0.00706)	-0.000323 (0.0190)	-0.00103 (0.00341)	0.0121 (0.0108)	0.00889 (0.00743)	0.0560** (0.0237)	-0.0132 (0.00877)	0.0109 (0.0225)
Covariates	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Region FE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Kleibergen-Paap F-stat.		9.62		7.49		9.07		9.61		7.44		8.70
Observations	1,317	1,317	1,395	1,395	1,396	1,396	1,375	1,375	1,399	1,399	1,418	1,418
R-squared	0.070		0.054		0.060		0.029		0.065		0.034	

Notes: OLS and 2SLS estimates. Robust standard errors clustered at the municipality level in parentheses. LAPOP 2010 individual opinion survey. Haitian immigrant population instrumented with inverse distance to border. Variables described in text. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

# Figures

### Figure 1: Growth divergence



### Figure 2: Political (in)stability

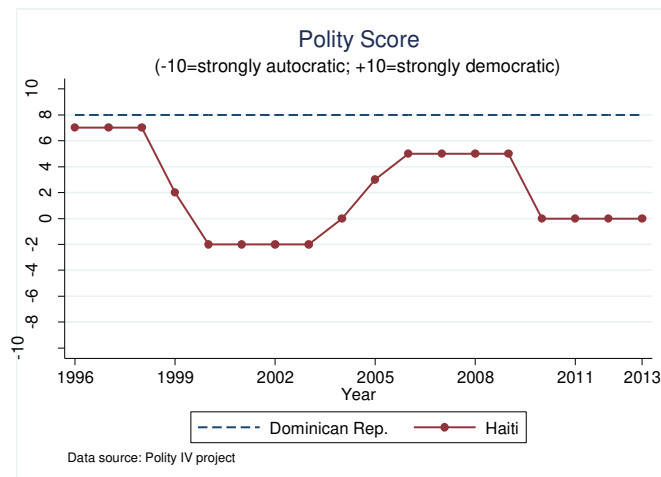


Figure 3: Haitian immigrant population per destination municipality (2010 Census)

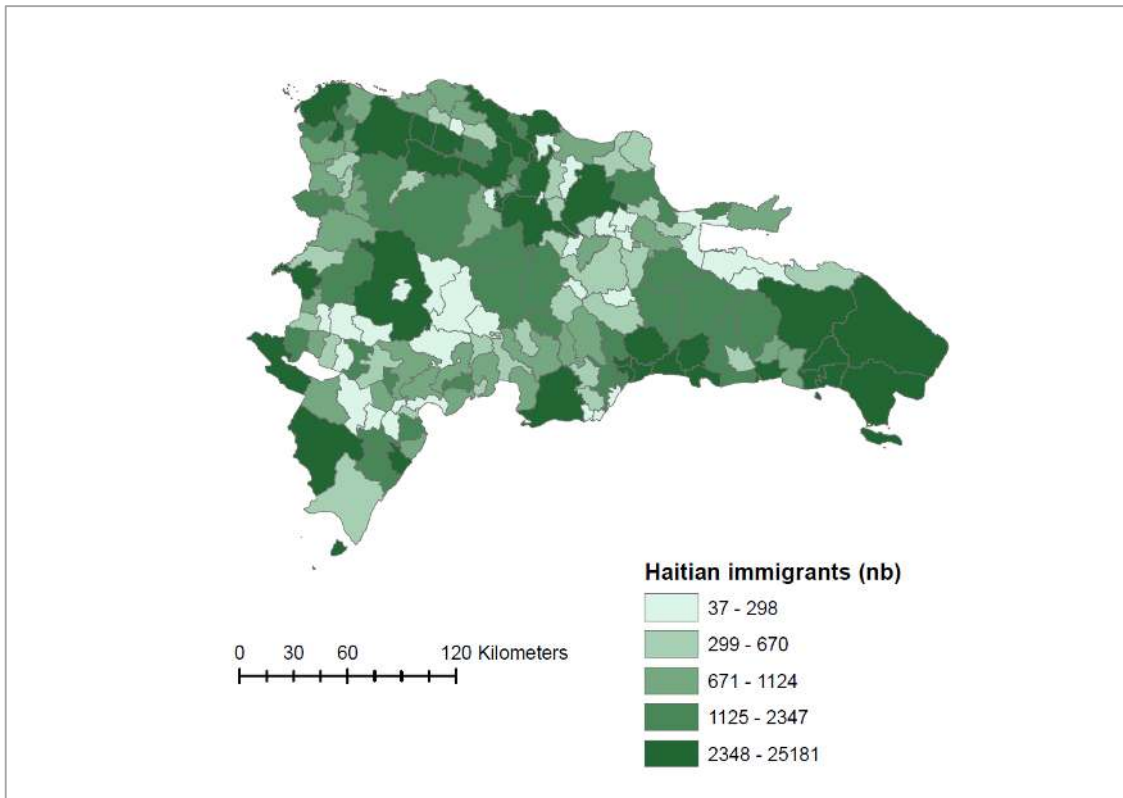


Figure 4: Haitian immigrant population per destination municipality (2010 Census)

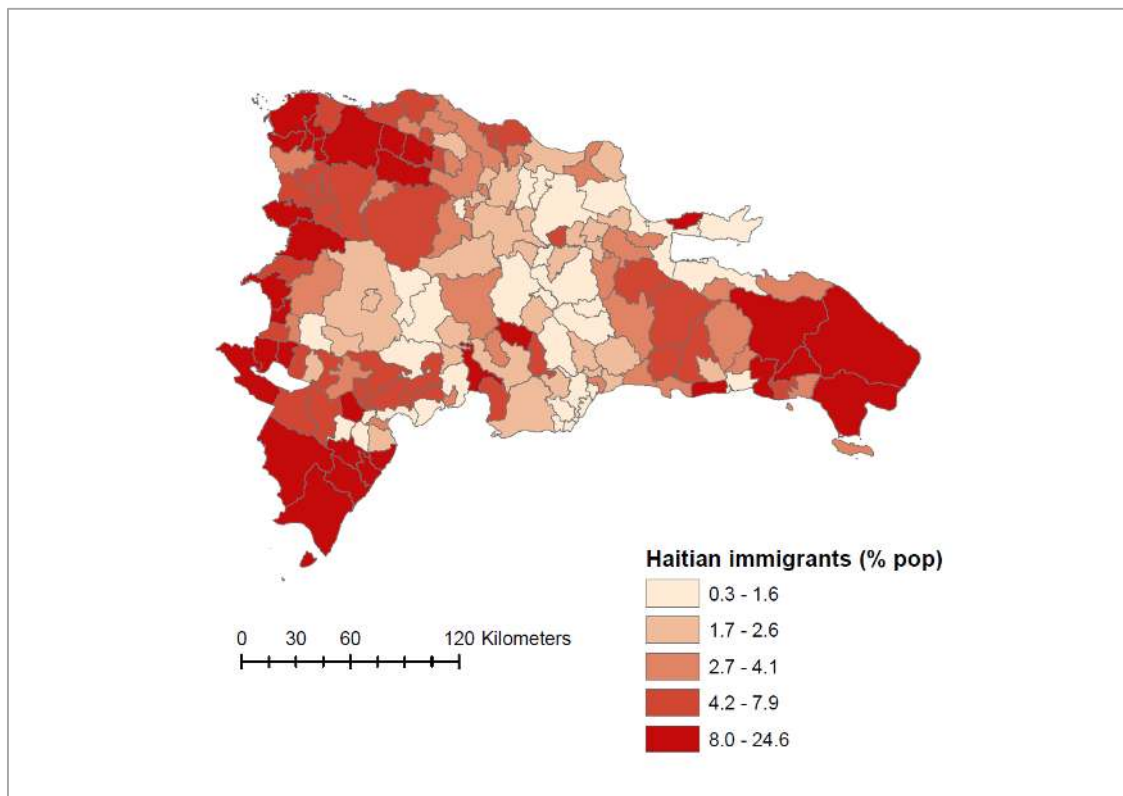


Figure 5. 2012 Presidential election outcomes

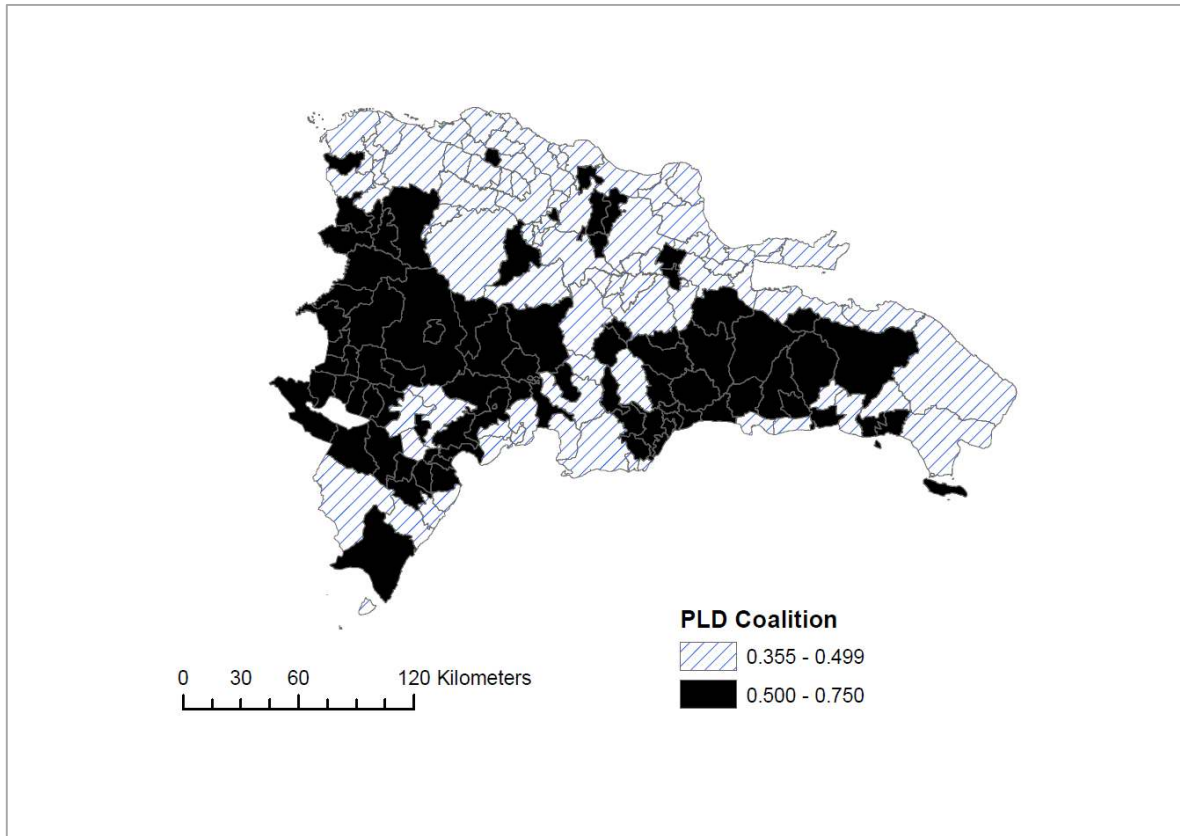
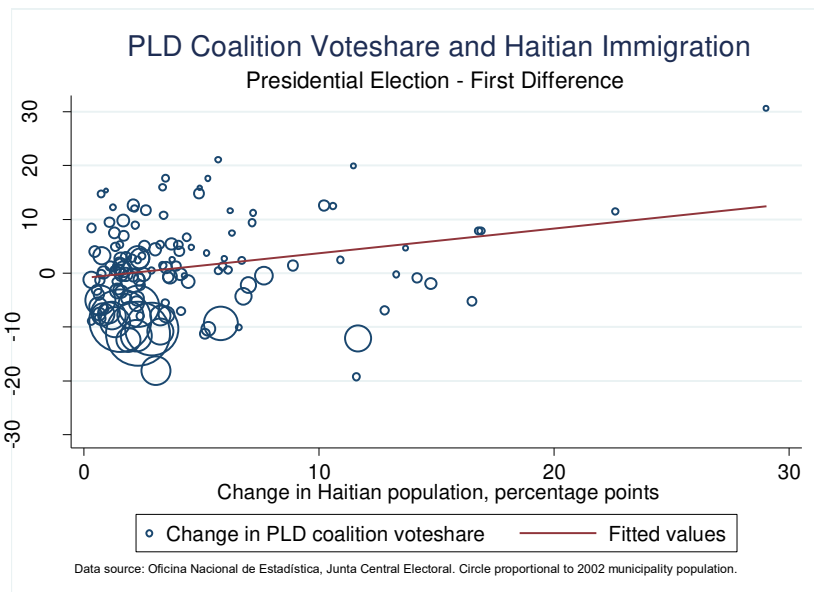
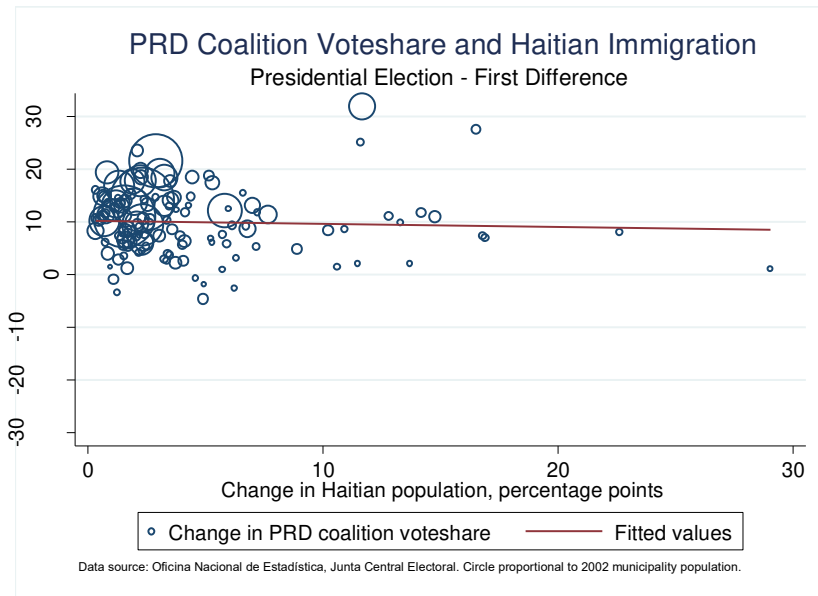


Figure 6: Right-wing vote shares and Haitian immigration



**Figure 7: Centre coalition vote shares and Haitian immigration**



## **Appendix**

Divided Island.

## Appendix Tables

**Table A.1: Origin of immigrants – Top ten source countries**

	Number of migrants
Haiti	311,969
US	24,457
Spain	6,691
Puerto-Rico	5,763
Venezuela	5,132
Cuba	3,639
Italy	3,595
Colombia	3,416
France	1,936
Germany	1,574

Data source: ONE 2010 Census.

**Table A.2: Summary statistics – Dominican natives and Haitian immigrants**

	Dominicans	Haitians
<b>Demographics:</b>		
Age	28.5 (20.5)	29.4 (14.2)
Female (%)	50.3	37.6
Urban status (%)	74.7	59.6
Years of schooling (16-64 population)	8.8 (4.9)	4.2 (4.6)
Secondary education completed (% , 16-64 population)	26.4	8.6
Tertiary education completed (% , 16-64 population)	9.4	1.1
Employed (% , 16-64 population)	48.4	59.3
Unemployed (% , 16-64 population)	9.1	8.3
Inactive (% , 16-64 population)	41.1	31.3
<b>Occupational composition of employment (%):</b>		
Legislators, senior officials and managers	2.1	0.3
Professionals	6.5	0.7
Technicians and associate professionals	6.4	0.9
Clerks	8.2	0.9
Service workers and shop and market sales	25.5	17.9
Skilled agricultural and fishery workers	6.3	18.5
Crafts and related trades workers	14.6	22.2
Plant and machine operators and assemblers	10.8	2.5
Elementary occupations	18.6	36.1
Armed forces	1.0	0.0
<b>Industrial composition of employment (%):</b>		
Agriculture, fishing, and forestry	8.4	35.1
Manufacturing	12.9	8.0
Construction	6.0	20.1
Wholesale and retail trade	24.3	18.4
Hotels and restaurants	4.8	3.3
Transportation and communications	6.4	1.5
Public administration and defence	5.1	0.3
Education	5.1	0.8
Private household services	8.7	7.7
Other	18.4	4.8

Data source: 2010 census.



**Table A.3: Value differences between PLD and PRD sympathisers**

	PRD sympathisers		PLD sympathisers		Mean differences	
	Mean	N	Mean	N	t-test	p-value
Political ideology 1-10 scale [1=far-left ; 10=far-right]	6.103	185	7.245	441	4.55	0.000
Religion importance in one's life 1-4 scale [1=not at all; 4=very]	2.635	222	2.732	530	1.89	0.059
Self-identify as 'having a black skin' [1=yes ; 0=no]	0.104	221	0.069	524	1.63	0.103
Family abroad [1=yes ; 0=no]	0.353	221	0.247	531	2.98	0.000

Notes: LAPOP 2010 survey data. See description in text.

**Table A.4: PLD and PRD coalitions results**

2004 Presidential Elections				2012 Presidential Elections			
PRD Coalition		PLD Coalition		PRD Coalition		PLD Coalition	
33.65%		57.10%		46.95%		51.19%	
Partido Revolucionario Dominicano (PRD)	30.67%	Partido de la Liberacion Dominicana (PLD)	49.01%	Partido Revolucionario Dominicano (PRD)	42.13%	Partido de la Liberacion Dominicana (PLD)	37.73%
Partido Quisqueyano Democrata Cristiano (PQDC)	0.76%	Bloque Institucional Social Democrata (BIS)	2.72%	Partido Movimiento Democratico Alternativo (MODA)	2.02%	Partido Reformista Social Cristiano (PRSC)	5.87%
Partido Renacentista Nacional (PRN)	0.31%	Partido Alianza por la Democracia (APD)	2.34%	Partido Revolucionario Social Democrata (PRSD)	1.36%	Bloque Institucional Social Democrata (BIS)	1.59%
Partido de Unidad Nacional (PUN)	1.24%	Partido de los Trabajadores Dominicanos (PTD)	0.68%	Partido Humanista Dominicano (PHD)	0.76%	Partido Union Democrata Cristiana (UDC)	0.78%
Unidad Democratica (UD)	0.52%	Partido Union Democrata Cristiana (UDC)	0.89%	Partido Democrata Institucional (PDI)	0.26%	Partido Quisqueyano Democrata Cristiano (PQDC)	1.32%
Partido Humanista Dominicano (PHD)	0.15%	Partido Liberal de la Republica Dominicana (PLRD)	0.39%	Partido Alianza Social Dominicana (ASD)	0.42%	Fuerza Nacional Progresista (FNP)	0.73%
		Fuerza Nacional Progresista (FNP)	1.07%			Partido de los Trabajadores Dominicanos (PTD)	0.57%
						Partido Popular Cristiano (PPC)	0.49%
						Partido Democrata Popular (PDP)	0.21%
						Partido Civico Renovador (PCR)	0.59%
						Partido de Unidad Nacional (PUN)	0.27%
						Partido Liberal de la Republica Dominicana (PLRD)	0.26%
						Partido Accion Liberal (PAL)	0.46%
						Partido Social Verde (PASOVE)	0.32%

Source: Central Electoral Board (JCE)

**Table A.5: Summary statistics**

	Obs.	Mean	Std. Dev.	Min	Max
<i>Presidential election outcomes</i>					
PRD coalition vote share	268	43.70	7.41	23.30	63.47
PRD party vote share	268	39.47	6.62	21.25	57.19
PLD coalition vote share	268	49.88	6.55	30.60	72.15
PLD party vote share	268	38.59	7.47	17.69	62.00
Participation rate (turnout)	268	76.54	4.61	58.33	86.81
<i>Covariates</i>					
Haitian immigrants (in % of population)	268	3.10	4.02	0.00	24.63
Haitian immigrants (in % of 2002 population)	268	3.23	4.47	0.00	29.50
Dependency ratio	268	42.17	3.82	34.23	52.58
Secondary education	268	23.06	4.79	11.63	33.52
Tertiary education	268	8.26	3.83	2.50	29.64
Unemployment rate	268	12.00	4.83	4.70	32.30
Agriculture sector employment	268	18.41	13.17	0.41	64.93
Manufacturing sector employment	268	6.73	6.00	0.14	29.94
Municipality population (in 000s)	268	67.19	145.76	4.70	992.85

Data sources: Central Electoral Board and National Office for Statistics. Census data: 2002 and 2010. Presidential elections of 2004 and 2012.

**Table A.6: Dominican international trade - 2007-2013 period**

Partner / Trade flow	Total trade	Exports	Imports
World (US\$ - 000s)	20,997,705	6,228,356	14,769,350
Haiti (US\$ - 000s)	804,345	782,292	22,053
Haiti (in % of world trade flow)	3.8	12.6	0.1

Source: UN COMTRADE. Average for 2007-2013 period.

**Table A.7: PLD and PRD vote shares (excluding coalition parties)**

	(1)	(2)	(3)	(4)
	FD – 2SLS regressions			
Dependent variable:	PLD vote		PRD vote	
	Panel A: Presidential elections			
Haitian immigrants	0.581* (0.348)	0.561* (0.311)	-0.570** (0.273)	-0.518* (0.266)
	Panel B: Congress elections			
Haitian immigrants	0.614 (0.411)	0.777** (0.372)	-0.586* (0.347)	-0.594* (0.346)
IV: population growth	Y		Y	
IV: distance to epicentre		Y		Y
Kleibergen-Paap F-statistic	6.69	8.24	6.69	8.24
Region FE	Y	Y	Y	Y
Covariates	Y	Y	Y	Y
Number of municipalities	134	134	134	134

Notes: Cluster-robust standard errors in parentheses. First difference regressions. Data sources: Dominican Central Electoral Board, Dominican National Office for Statistics (ONE), Haitian Institute for Statistics (IHSI). See text for definition of covariates. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

**Table A.8: No outliers**

	(1)	(2)	(3)	(4)	(5)	(6)
Dependent variable:	PLD coalition vote share			PRD coalition vote share		
	<u>Panel A. Presidential election results</u>					
	<u>FD</u>	<u>FD-2SLS</u>		<u>FD</u>	<u>FD-2SLS</u>	
Haitian immigrants	0.214 (0.280)	2.675** (1.078)	3.008** (1.276)	0.114 (0.260)	-0.878 (0.746)	-1.105 (0.923)
	<u>Panel B. Congressional election results</u>					
	<u>FD</u>	<u>FD-2SLS</u>		<u>FD</u>	<u>FD-2SLS</u>	
Haitian immigrants	0.382 (0.300)	3.063** (1.350)	4.253** (1.730)	-0.137 (0.225)	-1.919** (0.835)	-2.247** (0.986)
IV: population growth		Y			Y	
IV: distance to epicentre			Y			Y
Kleibergen-Paap F-statistic		9.72	7.74		9.72	7.74
Region FE	Y	Y	Y	Y	Y	Y
Covariates	Y	Y	Y	Y	Y	Y
Number of municipalities	127	127	127	127	127	127

Notes: Robust standard errors in parentheses clustered at the municipality level. First difference regressions. Data sources: Dominican Central Electoral Board, Dominican National Office for Statistics (ONE), Haitian Institute for Statistics (IHSI). See text for definition of covariates. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

**Table A.9: Special economic zones**

Dependent variable:	(1)	(2)	(3)	(4)	(5)	(6)
	PLD coalition vote share			PRD coalition vote share		
	<u>Panel A. Presidential election results</u>					
	<u>FD</u>	<u>FD-2SLS</u>		<u>FD</u>	<u>FD-2SLS</u>	
Haitian immigrants	0.270 (0.233)	1.614** (0.630)	1.326** (0.536)	0.213 (0.141)	-0.297 (0.392)	-0.201 (0.358)
Special Economic Zone firms	-0.265* (0.136)	-0.201 (0.167)	-0.215 (0.153)	0.267*** (0.0978)	0.242** (0.101)	0.247** (0.0984)
	<u>Panel B. Congressional election results</u>					
	<u>FD</u>	<u>FD-2SLS</u>		<u>FD</u>	<u>FD-2SLS</u>	
Haitian immigrants	0.386 (0.437)	2.083*** (0.801)	2.027*** (0.781)	0.00788 (0.141)	-1.228** (0.595)	-0.978** (0.484)
Special Economic Zone firms	-0.651*** (0.203)	-0.569** (0.224)	-0.572*** (0.220)	0.00326 (0.168)	-0.0561 (0.181)	-0.0441 (0.171)
IV: population growth		Y			Y	
IV: distance to epicentre			Y			Y
Kleibergen-Paap F-statistic		6.24	7.77		6.24	7.77
Region FE	Y	Y	Y	Y	Y	Y
Covariates	Y	Y	Y	Y	Y	Y
Number of municipalities	134	134	134	134	134	134

Notes: Robust standard errors in parentheses clustered at the municipality level. First difference regressions. Data sources: Dominican Central Electoral Board, Dominican National Office for Statistics (ONE), Haitian Institute for Statistics (IHSI). See text for definition of covariates. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

**Table A.10: Overidentified regressions**

	(1)	(2)	(3)	(4)
Dependent variable:	PLD coalition vote share		PRD coalition vote share	
	<u>2SLS</u>	<u>LIML</u>	<u>2SLS</u>	<u>LIML</u>
	<u>Panel A. Presidential election results</u>			
Haitian immigrants	1.144**	1.320**	-0.153	-0.169
	(0.517)	(0.665)	(0.357)	(0.375)
Sargan-Hansen test p-value	[0.038]	[0.055]	[0.21]	[0.22]
	<u>Panel B. Congressional election results</u>			
Haitian immigrants	2.029**	2.036**	-0.804*	-0.903*
	(0.874)	(0.879)	(0.428)	(0.506)
Sargan-Hansen test p-value	[0.76]	[0.76]	[0.070]	[0.083]
IV: population growth	Y	Y	Y	Y
IV: distance to epicentre	Y	Y	Y	Y
Cragg-Donald F-statistic	12.93	12.93	12.93	12.93
Kleibergen-Paap F-statistic	4.30	4.30	4.30	4.30
Region FE	Y	Y	Y	Y
Covariates	Y	Y	Y	Y
Number of municipalities	134	134	134	134

Notes: Robust standard errors in parentheses clustered at the municipality level. First difference regressions. Data sources: Dominican Central Electoral Board, Dominican National Office for Statistics (ONE), Haitian Institute for Statistics (IHSI). See text for definition of covariates. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

**Table A.11: Distance to the border**

	(1)	(2)	(3)	(4)	(5)	(6)
Dependent variable:	PLD coalition vote share			PRD coalition vote share		
	<u>Panel A. Presidential election results</u>					
	<u>FD</u>	<u>FD-2SLS</u>		<u>FD</u>	<u>FD-2SLS</u>	
Haitian immigrants	0.272 (0.199)	1.041** (0.411)	0.859** (0.384)	0.208* (0.121)	0.152 (0.250)	0.161 (0.229)
	<u>Panel B. Congressional election results</u>					
	<u>FD</u>	<u>FD-2SLS</u>		<u>FD</u>	<u>FD-2SLS</u>	
Haitian immigrants	0.435 (0.395)	2.371*** (0.910)	2.244** (0.917)	0.0192 (0.131)	-0.844* (0.450)	-0.666* (0.384)
IV: population growth		Y			Y	
IV: distance to epicentre			Y			Y
Kleibergen-Paap F-statistic		7.91	10.22		7.91	10.22
Region FE	Y	Y	Y	Y	Y	Y
Covariates	Y	Y	Y	Y	Y	Y
Number of municipalities	134	134	134	134	134	134

Notes: Robust standard errors in parentheses clustered at the municipality level. First difference regressions. Data sources: Dominican Central Electoral Board, Dominican National Office for Statistics (ONE), Haitian Institute for Statistics (IHSI). See text for definition of covariates. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.



**Table A.12: Weighted regressions**

	(1)	(2)	(3)	(4)	(5)	(6)
Dependent variable:	PLD coalition vote share			PRD coalition vote share		
	<u>Panel A. Presidential election results</u>					
	<u>FD</u>	<u>FD-2SLS</u>		<u>FD</u>	<u>FD-2SLS</u>	
Haitian immigrants	0.228 (0.186)	3.167** (1.477)	2.922** (1.484)	0.312* (0.187)	-1.418 (1.093)	-1.293 (1.117)
	<u>Panel B. Congressional election results</u>					
	<u>FD</u>	<u>FD-2SLS</u>		<u>FD</u>	<u>FD-2SLS</u>	
Haitian immigrants	-0.107 (0.432)	4.191* (2.176)	4.329* (2.336)	0.227 (0.282)	-3.476** (1.634)	-3.251** (1.622)
IV: population growth		Y			Y	
IV: distance to epicentre			Y			Y
Kleibergen-Paap F-statistic		5.65	5.43		5.65	5.43
Region FE	Y	Y	Y	Y	Y	Y
Covariates	Y	Y	Y	Y	Y	Y
Number of municipalities	134	134	134	134	134	134

Notes: Robust standard errors in parentheses clustered at the municipality level. First difference regressions. Data sources: Dominican Central Electoral Board, Dominican National Office for Statistics (ONE), Haitian Institute for Statistics (HIS). See text for definition of covariates. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

**Table A.13: Excluding border municipalities**

Dependent variable:	(1)	(2)	(3)	(4)
	PLD coalition		PRD coalition	
	Panel A: Presidential elections			
Haitian immigrants	2.230*	2.658**	-0.279	-0.253
	(1.154)	(1.209)	(0.821)	(0.581)
	Panel B: Congress elections			
Haitian immigrants	2.969*	3.772**	-0.785	-1.155
	(1.528)	(1.593)	(0.961)	(0.942)
IV: population growth	Y		Y	
IV: distance to epicentre		Y		Y
Kleibergen-Paap F-statistic	6.51	6.97	6.51	6.97
Region FE	Y	Y	Y	Y
Covariates	Y	Y	Y	Y
Number of municipalities	119	119	119	119

Notes: Robust standard errors in parentheses clustered at the municipality level. First difference regressions. Data sources: Dominican Central Electoral Board, Dominican National Office for Statistics (ONE), Haitian Institute for Statistics (IHSI). See text for definition of covariates. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

**Table A.14: Excluding Danto Domingo (capital city) province**

Dependent variable:	(1)	(2)	(3)	(4)
	PLD coalition		PRD coalition	
	Panel A: Presidential elections			
Haitian immigrants	1.576*** (0.572)	1.339*** (0.496)	-0.281 (0.344)	-0.223 (0.321)
	Panel B: Congress elections			
Haitian immigrants	2.083*** (0.805)	2.076*** (0.787)	-1.172** (0.540)	-0.962** (0.448)
IV: population growth	Y		Y	
IV: distance to epicentre		Y		Y
Kleibergen-Paap F-statistic	7.12	8.68	7.12	8.68
Region FE	Y	Y	Y	Y
Covariates	Y	Y	Y	Y
Observations	129	129	129	129

Notes: Robust standard errors in parentheses clustered at the municipality level. First difference regressions. Data sources: Dominican Central Electoral Board, Dominican National Office for Statistics (ONE), Haitian Institute for Statistics (IHSI). See text for definition of covariates. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

**Table A.15: Political fractionalisation**

	(1)	(2)	(3)	(4)	(5)	(6)
<u>Panel A: PLD fractionalization</u>						
Dependent variable:		PLD coalition fractionalization index			PLD coalition fractionalization index (log)	
Haitian immigrants	0.391** (0.197)	1.985** (0.924)	1.680** (0.798)	0.0125** (0.00624)	0.0727** (0.0318)	0.0624** (0.0273)
<u>Panel B: PRD fractionalization</u>						
Dependent variable:		PRD coalition fractionalization index			PRD coalition fractionalization index (log)	
Haitian immigrants	-0.165 (0.145)	0.613 (0.483)	0.457 (0.398)	-0.0125 (0.00911)	0.0345 (0.0301)	0.0288 (0.0274)
K-P 1 <sup>st</sup> stage						
F-stat	.	6.69	8.24	.	6.69	8.24
IV: population		Y			Y	
IV: epicentre			Y			Y
Covariates	Y	Y	Y	Y	Y	Y
Region FE	Y	Y	Y	Y	Y	Y
Observations	134	134	134	134	134	134

Robust standard errors in parentheses clustered at the municipality level. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

**Table A.16: Opinion survey - descriptive statistics**

	Obs.	Mean	Std. Dev.	Min	Max
<i>Outcome variables:</i>					
Anti-Haitianism: job competition	1,380	0.407	0.491	0	1
Anti-Haitianism: work permits	1,461	0.517	0.499	0	1
Anti-Haitianism: access public services	1,466	0.334	0.472	0	1
Anti-Haitianism: redistribution	1,444	0.069	0.255	0	1
Anti-Haitianism: citizenship	1,463	0.463	0.499	0	1
PLD vote intention	1,207	0.503	0.500	0	1
PRD vote intention	1,207	0.254	0.435	0	1
Other party vote intention	1,207	0.244	0.429	0	1
<i>Covariates:</i>					
Haitians (in % of municipality population)	1,500	3.289	2.644	0.651	16.318
Unemployment rate	1,500	7.298	1.503	4.7	13.9
Gender (women=1; men=0)	1,500	0.510	0.500	0	1
Age	1,499	41.209	16.756	18	90
Age sq./1000	1,499	1.979	1.562	0.324	8.1
Education (years)	1,495	8.619	4.806	0	18
Married	1,487	0.225	0.417	0	1
HH size (number of children)	1,499	2.905	2.653	0	18
Rural area	1,500	0.269	0.444	0	1
Self-identify as: Indio/Mestizo	1,483	0.676	0.468	0	1
Self-identify as: White	1,483	0.096	0.294	0	1
Self-identify as: Mulatto	1,483	0.111	0.314	0	1
Self-identify as: Black	1,483	0.103	0.304	0	1
Self-identify as: Other	1,483	0.014	0.118	0	1
Catholic	1,460	0.603	0.489	0	1
Evangelist	1,460	0.181	0.385	0	1
Protestant	1,460	0.054	0.226	0	1
Religion other	1,460	0.016	0.127	0	1
Atheist	1,460	0.145	0.352	0	1

Data source: LAPOP 2010 individual opinion survey. Vanderbilt University.

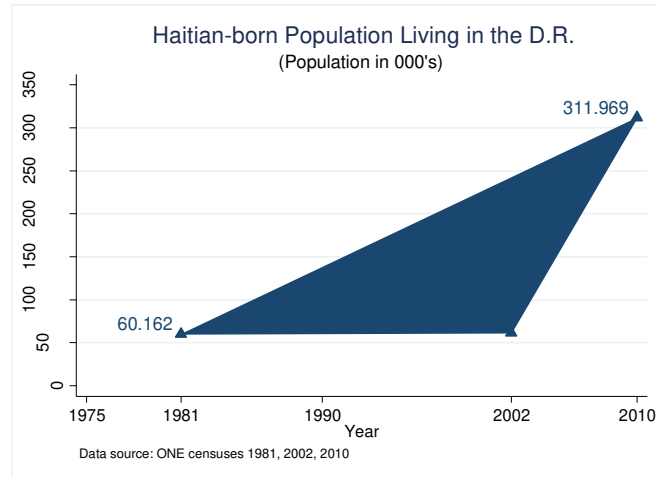
**Table A.17: Opinion survey - first stage results**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
First stage regression of:	PLD vote	PRD vote	Job competition	Work permits	Public services	Redistribution	Citizenship	Insecurity
Dependent variable: Haitian immigrants (%)								
Inverse distance to border	15.60** (5.854)	15.60** (5.854)	14.41*** (4.645)	15.72*** (5.743)	14.75*** (4.897)	14.76*** (4.764)	15.85*** (5.813)	15.00*** (5.088)
Covariates	Y	Y	Y	Y	Y	Y	Y	Y
Region FE	Y	Y	Y	Y	Y	Y	Y	Y
Observations	1,154	1,154	1,317	1,395	1,396	1,375	1,399	1,418
R-squared	0.555	0.555	0.516	0.517	0.515	0.502	0.519	0.511

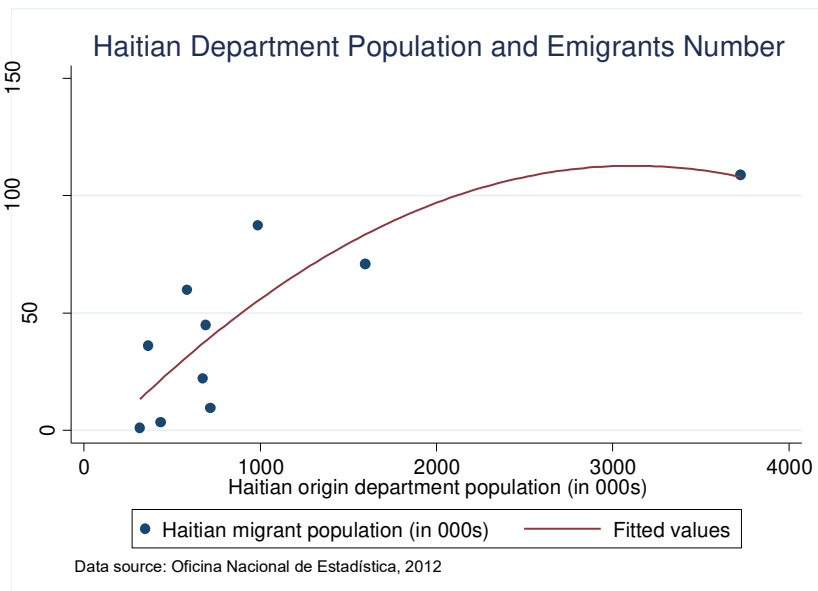
Notes: OLS first stage estimates. Robust standard errors clustered at the municipality level in parentheses. LAPOP 2010 individual opinion survey. Haitian immigrant population instrumented with inverse distance to border. Variables described in text. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

# Appendix Figures

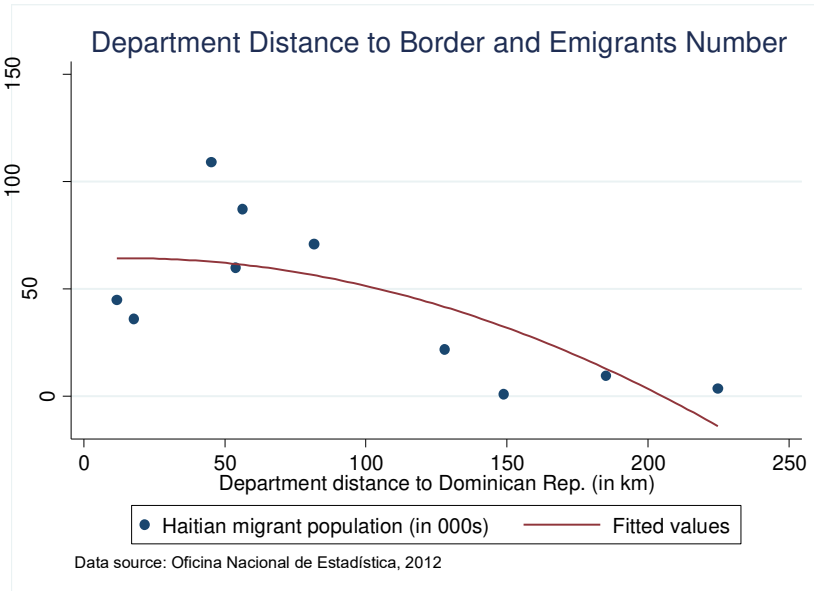
## Figure A.1: Haitian population growth



## Figure A.2: Haitian emigration (1/2)



**Figure A.3: Haitian emigration (2/2)**



**Figure A.4: Presidential election outcomes**

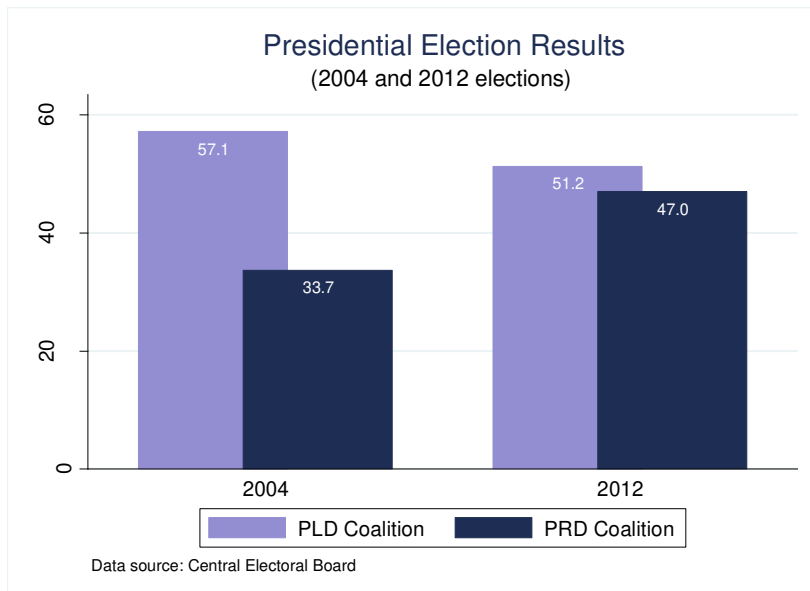




Figure A.5: Dominican regions and municipalities

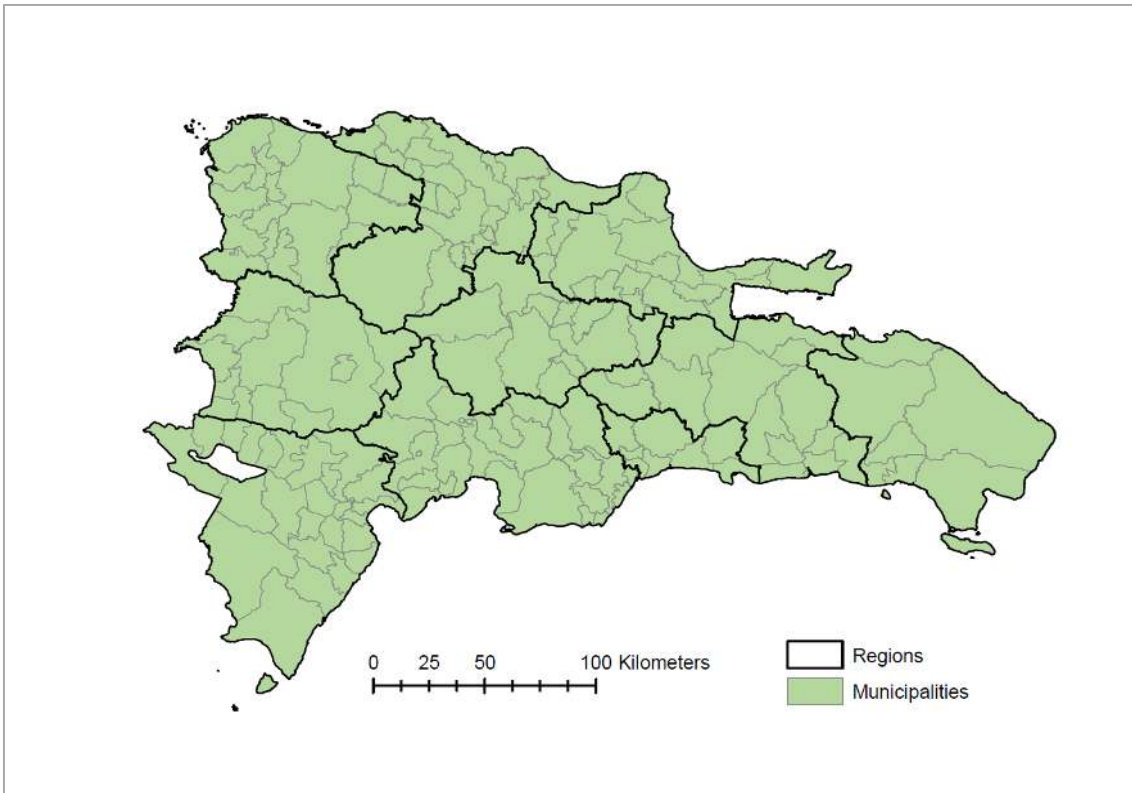


Figure A.6: Haitian *départements* and Dominican municipalities

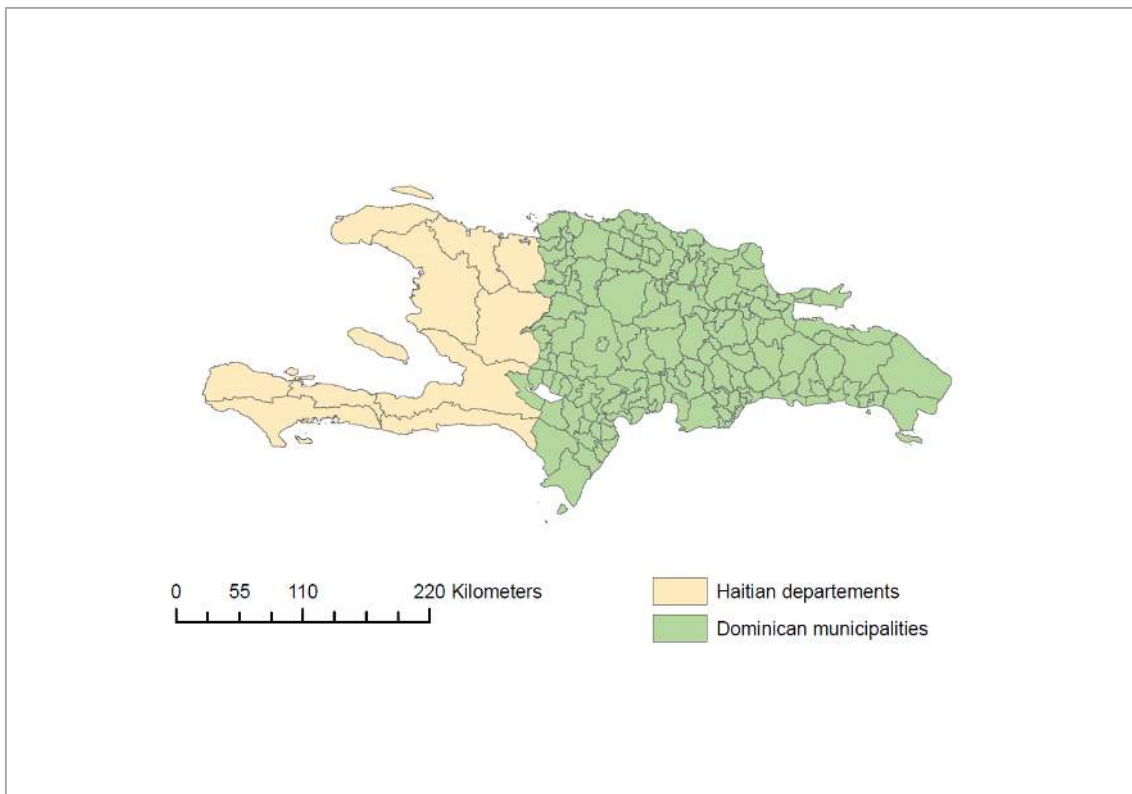


Figure A.7: January 2010 earthquake instrumental variable

