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Abstract

Immigration enforcement cooperation between final destination and transit countries has increased in the last decades. However, the question whether these measures are successful in deterring undocumented migrants has not been previously explored by the empirical literature. This paper examines whether the Southern Border Plan, an immigration enforcement program implemented by the Mexican government in 2014, has curbed intentions of unauthorized migrants from El Salvador, Guatemala, and Honduras to migrate to the United States. Combining surveys from Central American and Mexican deportees and using a DiD approach, I find that increased enforcement in Mexico decreases the likelihood of attempting repeated unauthorized crossings. The results indicate that in the short-run the cooperation between destination and transit countries could be effective in deterring undocumented migrants.

JEL Classification: F22, K42, K37, O15

Keywords: Immigration enforcement; deportees; Central American migrants; unauthorized; undocumented; remigration; transit countries

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1 Introduction

Current estimates indicate that about 50 million migrants worldwide lack the required legal permission to live and work in their chosen destination country (UNODC, 2010). This implies that almost 20% of all international migrants are irregular (IOM, 2018).[1] Over the last decade, apprehension data along international borders show a growing number of asylum-seekers and economic migrants from developing countries arriving in developed countries, mainly in Europe and the United States (US).[2] In Europe, irregular arrivals registered by land and sea tripled between 2013 and 2014 (100 to 280 thousand) and six-folded between 2014 and 2015 (1.8 million) (IOM, 2015). In the US, the apprehension of Mexicans reached historical lows. However, the apprehension of Central American immigrants surged. From 2010 to 2014 the apprehensions of "non-Mexicans" five-folded, mainly driven by citizens from Central America's Northern Triangle – composed of El Salvador, Honduras, and Guatemala (see Figure 1).

Due to the increase of irregular migration, final destination countries have partnered with transit countries to step up their immigration enforcement measures. Cooperation between destination and transit countries has taken the form of repatriation agreements, enhancing border controls in transit countries, training of personnel, and technical and financial assistance (Djajić and Michael, 2014). Some examples of bilateral cooperation are the "Treaty on Friendship, Partnership and Cooperation" signed by Italy and Libya in 2008, and the "EU-Turkey Statement" signed in 2016, both aiming at increasing enforcement while migrants are still on transit.[3]

While a large body of literature analyzes the effects of increased immigration enforcement in the destination country on unauthorized migration – mostly of Mexican workers to

[1] The IOM estimates the number of international migrants globally at about 244 million.

[2] Data on apprehensions are a highly imperfect proxy for the total flow of undocumented migrants because while an undocumented migrant can be caught multiple times during the same month, other migrants are not apprehended (Cornelius, 2001). Despite this, data on apprehensions can shed some light on the number of undocumented migrants arriving at the border and the composition of the flows (Hanson, 2006).

[3] The first seeks to increase investments in Libya's border controls and sea surveillance to deter African immigrants. The second aims at closing the Balkan route, reducing migration flows in transit through Turkey to Greece, preventing new sea or land routs, and increasing cooperation in terms of relocation agreements (European Commission, 2017).

the US[4] – there is no empirical evidence on the effect of cooperation between destination and transit countries to curtail unauthorized immigration. To the best of my knowledge, this paper is the first to analyze empirically whether tougher enforcement measures in transit countries curb migration intentions of unauthorized migrants.[5]

Theoretically, Djajić and Michael (2014) suggest that destination countries can control unauthorized immigration by providing financial aid to transit countries to step up their enforcement actions. Djajić (2017) further indicates that the "additional" disutility faced by migrants in transit countries has the potential to deter unauhtorized migration. In addition, more controls in transit countries can influence the destination country's immigration policy by increasing the effectiveness of border controls and discouraging individuals to migrate in the first place. Furthermore, empirical evidence on bilateral migration flows suggests that immigration policies set by other countries have important cross-country spillovers (see e.g. Boeri and Brücker, 2005; Giordani and Ruta, 2013; Bertoli and Moraga, 2015). Against this background, this paper evaluates whether the Southern Border Plan (SBP), an immigration enforcement program announced by the Mexican government in 2014, had an impact on the remigration intentions of Central American deportees originating from the Northern Triangle. The main objective of the SBP is to decrease the number of Central American migrants in transit through Mexico to the US.

Previous literature on immigration enforcement argues that more punitive measures are effective in deterring irregular migrants because they increase migration costs and decrease the expected utility of being an unauthorized migrant. Yet the empirical evidence remains inconclusive.[6] Some studies focusing on enforcement in the US use changes in Border Patrol watch hours and aggregate apprehension data. They find no or little evidence that increased enforcement deters Mexican undocumented migrants (see e.g. Angelucci, 2012; Dávila *et al.*, 2002). Similar results are found by studies focusing on

[4] A notable exception is the work by Carling (2007) who analyzes the effect of migration controls on Spanish-African borders on the number of deaths.

[5] An exception is Guido *et al.* (2017), who focus on the impact of rising smuggling markets in transit countries on migration intentions. However, this study differs from mine as it does not analyze immigration enforcement directly.

[6] For a literature review on irregular migration from Mexico to the US see Hanson (2006).

national policies such as the *Immigration Reform and Control Act* (1986) which made it illegal to employ unauthorized migrants (see e.g. Kossoudji, 1992; Donato *et al.*, 1992; Cornelius, 2001) and *Operation Streamline* (2007) which criminalized crossing the border without the corresponding documentation (see e.g. Amuedo-Dorantes and Pozo, 2014; Cañas *et al.*, 2011). These studies find, however, evidence of other unintended consequences such as a mounting of migration costs, risks of injury and death (Massey *et al.*, 2002; Gathmann, 2008), a rise in smuggler markets (Kossoudji, 1992), and a shift from temporal to permanent migration patterns (Massey and Pren, 2012; Angelucci, 2012).

In contrast, studies focusing on state level policies find that enforcement curtails irregular migration. Examples include the *Legal Arizona Workers Act* announced in 2007, which required all employers in Arizona to check for employment eligibility; and the *Arizona SB 1070* announced in 2010, which allowed the local police to verify the immigration status of an individual during a lawful stop. The studies find that state policies are effective in (i) deterring unauthorized migrants in the short-run (Amuedo-Dorantes *et al.*, 2013), (ii) decreasing the proportion of non-citizen Hispanic population in the state (Lofstrom *et al.*, 2011; Bohn *et al.*, 2014), and (iii) changing immigration and locational choices of new Mexican immigrants (Hoekstra and Orozco-Aleman, 2017).

While the existing empirical studies provide evidence on the effect of increased enforcement in destination countries, the results cannot be generalized to transit countries. I contribute to the existent literature on immigration enforcement by analyzing whether a more restrictive immigration policy in a transit country has the potential to stem the tide of irregular immigrants. Specifically, using exogenous variation provided by the introduction of the SBP, I test whether increased immigration enforcement in Mexico has an impact on the likelihood of reporting intentions to remigrate of Central American deportees. I combine surveys on Central American and Mexican irregular migrants apprehended and deported by Mexican and US authorities from 2012-2015, respectively. Using a Difference-in-Differences (DiD) approach, I compare the evolution of short-run migration intentions of Central American deportees relative to Mexican deportees. The findings suggest that the SBP significantly decreases the likelihood of recidivism. The

deterrence effect is smaller for migrants who had better employment opportunities in their home countries and for migrants with access to a network in the US. Furthermore, the results show that Central American deportees who were not apprehended by Mexican authorities but by US authorities, do not respond to the program. Taken together the findings suggest that bilateral cooperation between destination and transit countries, in terms of immigration enforcement, has the potential to deter unauthorized immigrants in the short-run.

The remainder of this paper is structured as follows. The following chapter discusses the background of the SBP. Section 3 describes the empirical strategy. Section 4 presents the data used for the analysis. Section 5 discusses the results and Section 6 concludes.

2 The Southern Border Plan

Thousands of Central American immigrants, mainly from the Northern Triangle, transit through Mexico and travel north to the US every year.[7] Spanning 209 kilometers, the Mexican southern border with Guatemala and Belize has eleven formal border controls for terrestrial crossings, while authorities estimate the existence of over 700 points of informal crossings (SEGOB-CAIMFS, 2015). Due to its porosity, about 95% of migrants in transit cross the border without the proper legal documentation (SEGOB, 2014b). Under the Central America-4 visa system, Guatemala, Honduras, El Salvador, and Nicaragua do not require each other's citizens to present visas or passports, but only their identity cards. As a result, both arriving at and crossing the Guatemala-Mexico border is simple. Once in Mexico, migrants make their way toward the US border along established transit routes, or atop freight trains known as *La Bestia* (Dominguez Villegas, 2014).

The porosity of Mexico's southern border led to increased cooperation in terms of

[7] An additional possibility for Central American migrants is to enter legally to the US and then overstay their visas. According to the US Department of Homeland Security (DHS, 2016), this share is relatively small with a total overstay rate of 2.20%, 2.39%, and 2.65% for Guatemala, El Salvador, and Honduras, respectively. The rate consists of those admitted to the US via air or sea for business or pleasure and reflects the percentage of individuals from each country who overstayed their period of admission in the US during a fiscal year.

border security between Mexico and the US since 2007 when the "Mérida Initiative"[8] was launched. Under one of the main pillars of this initiative, the Mexican government committed to increasing its efforts to improve security at the southern border. Since 2013 the US State Department has provided Mexico with 24 million USD in equipment and training assistance which includes mobile kiosks, canine teams, and training for officials of the National Migration Institute (INM) (*Instituto Nacional de Migración*). In addition, the US State Department has targeted more than 75 million USD to Mexico's southern border (Seelke and Finklea, 2017).

Despite the investments in Mexico's southern border the flows of Central American migrants in transit increased. From 2008 to 2011 the estimated annual flow of Central American migrants in transit through Mexico was about 135,000.[9] Economic crises, increased levels of poverty, inequality, and different forms of violence in Honduras, Guatemala, and El Salvador, resulted in an unprecedented flow of women and unaccompanied children arriving at the US-Mexico border in 2014. During this year the estimated flow of migrants tripled, reaching a total of 392,000 Central American individuals in transit to the US.

As a response to the increase in unauthorized migration flows, both the US and Mexico took steps to increase border security, as well as detain and remove unauthorized immigrants. For Mexico, the cooperation on enforcement implied increasing its removal efforts, disrupting traditional and well-developed migrant routes, and installing new checkpoints to apprehend and deport unauthorized immigrants. On July 7th, 2014, Mexican president Enrique Peña Nieto announced the introduction of the "Southern Border Plan" *(Plan Frontera Sur)*.[10] A formal strategy to stem the flows of undocumented Central American immigrants in transit through Mexico.

The SPB is implemented in Mexico's southern states (see Figure 2) and establishes the following objectives. First, increasing formal and orderly border crossings from Guatemala

[8]This initiative is a package of US assistance for Mexico targeted at four different pillars: (i) disrupting criminal groups, (ii) institutionalizing the rule of law, (iii) creating a 21st century border, and (iv) building strong and resilient communities.

[9]Rodríguez Chávez (2017) calculates annual average flows using apprehensions both in Mexico and the US as well as an estimated number of individuals who were not apprehended and managed to settle in the US.

[10]The SBP is also referred to as Southern Border Program (Programa Frontera Sur).

and Belize to Mexico. Second, increasing border control and migrant's safety in the official border sectors. Third, protecting migrants in transit by building and improving shelters and immigration stations. Fourth, increasing bilateral collaboration and responsibility with Northern Triangle countries. Fifth, creating the *Coordinación para la Atención Integral de la Migración en la Frontera Sur* (CAIMFS), an organization to ensure that human rights of migrants in transit are respected (SEGOB, 2014a).

Despite the stated objectives of the SBP, the Mexican government focused on the apprehension and repatriation of Central American undocumented migrants (Castañeda, 2014). While the CAIMFS was closed down one year later, the apprehension and removal of Central American immigrants increased rapidly after the plan was announced. Due to the porosity of the border, Mexico has chosen to focus its enforcement actions in the country's interior rather than at the border; by implementing security belts and increasing the number of raids and mobile checkpoints in strategic places (SEGOB, 2014a). Therefore, immigration enforcement in Mexico is – to a certain extent – similar to US enforcement at the state level and operates on a "show your papers" mode.[11]

Figure 3 shows monthly apprehensions and deportations by Mexican authorities. Mexico apprehended 127,149 Central American migrants in 2014, the vast majority of whom were citizens of the Northern Triangle. This represents a 47.3% increase from 2013, when authorities apprehended only 86,298 migrants. The number of deportations in Mexico is almost perfectly correlated with the number of apprehensions ($\rho = .98$), which shows that Mexico apprehends migrants with a "catch and release" policy. The figure further shows that the number of apprehensions increased shortly before the SBP was announced. This can be explained by an increased inflow of Central American immigrants in transit and not necessarily by increased enforcement in Mexico before the SBP announced. To support this argument, Figure 3 also plots the monthly number of immigration checkpoints operated by the INM. Before the SBP was announced, there were on average 1,770 checkpoints installed every month. It was not only after the SBP was implemented that the monthly

[11]These type of policies are highly controversial because they create a basis for racial profiling and discrimination (Hoekstra and Orozco-Aleman, 2017).

average increased by almost 50% (2,630 checkpoints). Therefore, if the ability of the US to curb undocumented migration inflows depends on the extent to which Mexico controls transit flows originating from other Latin American countries, the SBP could potentially deter thousands of irregular immigrants every year.

3 Identification Strategy

To identify the causal effect of increased immigration enforcement in Mexico on Central American deportees' intentions to return to the US, I use the SBP as a source of exogenous variation. Using a DiD approach, I compare remigration intentions of migrants from Honduras, Guatemala and El Salvador, in transit through Mexico to the US, apprehended and deported by Mexican authorities (treatment group), with remigration intentions of Mexicans apprehended and deported by US authorities (control group). Whereas changes in immigration enforcement in the US would affect both groups equally, unauthorized Central American migrants face tougher enforcement measures after July 2014 in Mexico. Mexicans, however, are not affected by the new enforcement measures proposed by the SBP. The DiD strategy is implemented by estimating:

$$Y_{idts} = \alpha + \beta(CA_i * PostSBP_t) + \theta' \mathbf{X}_i + \kappa_s + \gamma_d + \lambda_t + \delta_d \mathbf{t} + \kappa_s \mathbf{t} + \epsilon_{idts}, \qquad (1)$$

The outcome of interest Y_{idts} is a binary variable that takes the value 1 if the individual i who migrated from department[12] d, in quarter t, and was apprehended in state s, reported that s/he will try another crossing in the future and 0 otherwise. I differentiate between short-run intentions, which indicate that the migrant intends to return to the US in less than three months, and long-run intentions, which indicate if the migrant intends to return sometime in the future.

CA is a binary variable which equals one if the individual is Central American (treatment group) and zero if the individual is Mexican (control group). The dummy variable

[12]Department is an aggregate measure equivalent to states. For Mexican deportees I control for the state of origin.

$PostSBP$ takes the value 1 if the individual started his/her trip after the SBP was announced (third quarter of 2014). The coefficient of interest is β, which reflects the change in reported intentions for the treatment group relative to the control group after the program was announced.

The vector $\mathbf{X}$ includes the following variables. First, individual demographic characteristics that are likely to affect the decision to migrate e.g., age, gender, English skills, educational level, marital status, whether the migrant is the household head, and household size. Second, characteristics related to the migration event itself e.g., borrowing money for the trip, using a smuggler, and the number of persons traveling together. Third, an indicator of having access to a network in the US measured by the presence of family or friends in the US. Last, control variables for previous migration experience e.g., number of previous crossings and deportations.

I further include department of origin dummy variables γ_d in order to capture time-invariant characteristics that may relate to migration patterns, such as regional historical emigration levels. State of apprehension fixed effects κ_s capture time-invariant characteristics related to an environment hostile to transit migration. Quarter fixed effects λ_t control for shocks that affect the desire to migrate to the US, such as changes in immigration enforcement in the US.

To account for different pre-treatment trends for treated and control individuals, I include time trends $\delta_d \mathbf{t}$ for each origin department in an alternative specification. The interaction of state fixed effects with linear time trends captures changing socioeconomic and political characteristics correlated with the decision to migrate, such as escalating crime and/or unemployment rates. I further control for apprehension state-level time trends $\kappa_s \mathbf{t}$ to capture changing conditions in the state where the migrant was apprehended, such as increasing immigration enforcement measures at the state level or increasing hostility against migrants.

Several concerns might arise in this framework. The main identifying assumption is that in the absence of the SBP, remigration intentions of the treatment and control group would have followed parallel trends. Without additional enforcement measures in Mexico the

evolution of reported intent of recidivism should not systematically differ among Central American and Mexican deportees. To show that both groups follow similar pre-treatment trends, in section 4 I provide descriptive evidence on the evolution of remigration intentions. In addition, in section 5.2 I estimate the model using a placebo treatment to show that the results are not driven by differences in pre-program trends.

With respect to the dependent variable – deportees' intent to cross the border – it is possible, that the reported intent may not translate into a future migration event. Empirical evidence, however, shows that reported intentions are highly correlated with migration outcomes and are a good predictor of future emigration (see e.g. Creighton, 2013; van Dalen and Henkens, 2013; Docquier *et al.*, 2014). In addition, there is no reason to suspect that individuals misstate their intents as data are collected in the origin country and not in the US. In addition the data are not collected by authorities related to the apprehension-deportation process.

Further concerns arise when using data on deportees, who represent a very selected sample of migrants. While the results cannot be generalized to the affected population, examining deportees' migration intentions can shed some light on how enforcement affects individuals who have shown a propensity to migrate (see e.g. Amuedo-Dorantes and Pozo, 2014). Therefore, even if my results cannot be generalized to all migrants in transit, they do provide some first evidence on whether immigration enforcement in transit countries is successful in deterring unauthorized migrants.

Stricter immigration enforcement in Mexico induces additional selection in the deportees' sample in terms of observables and unobservables. Observed characteristics of Central American deportees are very similar before and after the SBP (see Table A1 in the Appendix). While changes in selection on unobservables cannot be ruled out, increased enforcement measures may cause more motivated or risk-loving individuals to migrate. If this is true, the estimated effect of the SBP on remigration intentions would represent a lower-bound.

4 Data and Descriptive Statistics

I combine data from the *Survey on Migration at Mexico's Southern Border* (EMIF South) and the *Survey on Migration at Mexico's Northern Border* (EMIF North). The EMIF are cross-sectional surveys conducted by *El Colegio de la Frontera Norte* (COLEF) supported by multiple Mexican governmental organizations.[13] The surveys are conducted along Mexico's northern and southern borders, as well as on specific locations where deportees are returned to. While the EMIF South focuses on migration flows from El Salvador, Guatemala, and Honduras to Mexico or the US, the EMIF North focuses on migration flows of Mexicans to the US.

I focus on a subset of the EMIF surveys spanning from 2012 to 2015: Central Americans (EMIF South) who were deported by Mexican authorities and Mexicans (EMIF North) who were deported by US immigration authorities. In addition, I use data on Central Americans, who were deported by US authorities, to test whether the estimated effects also hold for migrants who were not apprehended in Mexico. The data are representative of the overall population of irregular immigrants who were apprehended in the US or Mexico and returned to their origin countries. The design of both EMIF South and North is not identical, but most questions are comparable in both questionnaires. The surveys collect information on demographic characteristics of the migrants and their households left behind, details about the trip to the US, as well as information concerning the circumstances surrounding their apprehension. Most importantly, the surveys also gather information on future plans to cross the US border.

I restrict the samples of Central American and Mexican deportees to consolidate a group of migrants who share similar characteristics in order to make treatment and control group as similar as possible. First, the sample is restricted to individuals who started their trip to the US sometime during the course of January 2012 to December 2015, and report residing in their country of birth (190 Central American and 4,285 Mexicans, who

[13] Secretaría de Gobernación (SEGOB), Unidad de Política Migratoria (IPM), Consejo Nacional de Población (CONAPO), Consejo Nacional para Prevenir la Discriminación (CONAPRED), Secretaría de Relaciones Exteriores (SRE), Secretaría del Trabajo y Prevención Social (STPS), Secretaría de Desarrollo Social (SEDESOL).

reported the US as their place of residence, were dropped from the sample).[14] Second, Central American individuals who crossed the Mexico-Guatemala border via air or sea are dropped from the sample as they are less likely to cross the border without documents (48 observations). Third, Mexican migrants who entered the US legally (478 observations) or crossed the border via air (889 observations) are dropped from the sample. The final sample consists of 26,663 observations out of which 70% are Central American and 30% Mexican. The Central American sample consists of 51% Salvadoran, 29% Guatemalan, and 20% Honduran deportees.[15]

Table 1 presents the pre-program descriptive statistics for the full sample, Central American deportees (treatment group), and Mexican deportees (control group).[16] Despite finding statistically significant differences in individual characteristics between Central American and Mexican deportees, in most cases these are negligible. The demographic characteristics show that about 80% of the deportees are male and the mean age is 28. On average, the migrants come from households with about 5 members, were employed in their country of origin before the migration spell (over 60%), and report having family or friends living in the US (nearly 70%). Some differences between Central American and Mexican deportees can also be observed. Central Americans are less likely to be married (42% vs 57%) and to be the household head (42% vs 54%). In terms of schooling, the majority of Central Americans have completed primary education (47%), while the majority of Mexicans have completed low-secondary education (47%).

Not surprisingly, both groups differ with respect to the characteristics of the trip, which is mainly driven by the place where they were apprehended. Compared with Mexican deportees, Central Americans travel in smaller groups, are less likely to borrow money for the trip or to use a smuggler. With respect to the money spent for the trip, Central

[14]The exact date when the individual started the trip is not provided. For Central Americans, I estimate it using the date of apprehension in Mexico minus the days spent traveling. As for Mexicans time spent traveling is not available, I calculate the starting date using the survey date minus the number of days spent in the US and the days spent at the Mexican border.

[15]In 2013, the stock of emigrants as percentage of the population was 25%, 6.7%, and 8.4% for El Salvador, Guatemala, and Honduras, respectively (Ratha *et al.*, 2016).

[16]Tables with descriptive statistics for the full sample before and after the reform was introduced can be found in Tables A1 and A2 in the Appendix.

Americans spend on average 330 USD and Mexicans 440 USD. Expenditures for Central Americans are lower because they are apprehended at a very early stage of their journey. The group of Central Americans apprehended and deported by US authorities reports expenditures of about 2,830 USD (see Table A3).

Focusing on remigration intentions, 55% of Central American deportees report intending to cross the border again in the short-run, while 74% report that they will attempt to cross the border in the long-run. The share for Mexicans is 35% and 60%, respectively. The difference in levels for both groups is not a problem for identification if both groups follow a similar trend in the pre-program period.

Figure 4 illustrates the change over time in the share of recidivism intentions by treatment and control group. Two observations stand out. First, the reported intentions for both Central American and Mexican deportees follow a similar path before the program was announced, but this is only true for short-run intentions. Second, we can observe a clear drop in the share of Central American migrants who report intentions to cross the US border in the short and long-run. This drop happens exactly after July 2014, when the SBP was announced and can only be observed for the group of Central American deportees. This is a first indication that the SBP had a deterrence effect for the treatment group, while it did not alter the migration intentions of the control group. However, as the parallel-trend assumption is clearly violated in the long-run, the empirical analysis is restricted to short-run remigration intentions. In addition, I explicitly test for trend differentials in the analysis below.

Table 2 summarizes the results for the unconditional DiD estimates. The table shows the share of deportees who report intentions to remigrate before and after the program was implemented by treatment and control groups. The average intention to remigrate decreases for both groups, but the decrease is much larger for the treatment group than for the control group. The share of deportees in the control group reporting intentions to remigrate decreased by about 4 percentage points, while it decreased by about 24 percentage points for the treatment group. The DiD coefficient shows a significant difference between treatment and control group of 20 percentage points. Though these results are likely

biased due to omitted factors, they provide some evidence that the SBP had a negative impact on the intent to migrate of the treatment group.

5 Results

5.1 DiD Results

Using the framework in equation (1), Table 3 presents the results of a linear probability model on migration intentions. Column I presents the results without additional control variables, but taking into account quarter fixed effects and origin department fixed effects. The results suggest that relative to the control group, deportees in the treatment group are 30 percentage points less likely to report intentions to remigrate. When taking into consideration individual characteristics (column II) and characteristics of the trip (column III) the main coefficient remains similar in terms of magnitude and statistical significance. The same is the case when including state of apprehension fixed effects (column IV). When including department-level specific time trends (column V), the coefficient halves. This drop suggests that some factors at the origin department level diverge for treatment and control units. However, the point estimate remains negative and statistically significant which indicates that these factors are not driving the negative effect of the SBP on migration intentions. The results remain unchanged when controlling for state of apprehension specific time trends (column VI).

Taken together, these results suggest that the SBP curbed Central American deportees crossing intentions considerably relative to Mexican deportees. The preferred specification (column VI) indicates that Central American deportees are about 16 percentage points less likely to report intentions to remigrate. These results are in line with the theoretical model of Djajić (2017), who argues that increasing the costs of migration by enhancing border controls between origin and transit countries might be effective to deter unauthorized migration. The results are also comparable in terms of magnitude and statistical significance to the findings in Amuedo-Dorantes and Pozo (2014). The authors find that deportees

apprehended in US states with immigration laws allowing to determine the immigration status of a person during a lawful stop, decrease their immediate reentry intentions by 24 percentage points relative to deportees apprehended in states without such immigration laws. Thus, migrants seem to respond to policies that aim at checking their immigration status not only in the destination country, but also in transit countries.

Other findings from Table 3 worth discussing include the fact that deportees who are male, have higher levels of education, are the head of their households, and have relatives or friends in the US are more likely to report intentions to return to the US in the near future. These results are in line with previous findings on the self-selection of unauthorized immigrants suggesting that unauthorized immigrants in the US do not come from the lowest end of the education distribution (see e.g., Orrenius and Zavodny, 2005; Chiquiar and Hanson, 2005) and highlight the relevance of networks in the destination country on the decision to migrate (McKenzie and Rapoport, 2007).

In addition, deportees who are married and were employed in the origin country before their migration spell are less likely to report intentions to return to the US. These findings are not surprising, they reflect characteristics of migrants with more attachment to their origin country as well as better opportunities. For this group of migrants, migration costs are higher and returns to migration lower.

A surprising result is that deportees who borrowed money for their trip are more likely to indicate reentry intentions. While this contradicts the findings in Amuedo-Dorantes *et al.* (2015), a plausible explanation is that migrants who borrowed money in the past might be able to borrow again in the future to finance the costs of another trip.

5.2 Robustness Checks

In order to test the causal interpretation of the results reported in the previous sub-section and to discard that possible omitted time-varying factors are driving the results, I test whether the intention to remigrate is correlated with a placebo program. During the pre-program period – from January 2012 to June 2014 – none of the migrants were exposed

to additional enforcement from Mexican authorities. I conduct a falsification experiment by restricting the sample to individuals who crossed the border during the pre-program period. I create a false program in the same quarter of the year when the SBP was announced by including a binary variable which takes the value 1 from the third quarter of 2012 onwards and then re-estimate the specification presented in equation (1). The experiment is also conducted taking the third quarter of 2013 onwards. A statistically significant β would indicate that underlying factors correlated with the SBP are driving the results. The point estimates are shown in Panel A of Table 4 and correspond to the specifications in Table 3 (columns I-VI). In both experiments, the coefficients are close to zero and not statistically significant in any of the specifications. This indicates that the pre-treatment trends are similar for treatment and control groups and that the estimated effect is not driven by pre-program group differences.

In addition, to show that the results are not driven by observations right after the SBP was announced, I re-define the post-program binary indicator by shifting the treatment to the first quarter of 2015. The variable $PostSBP$ in equation (1) now equals 1 if the deportee started their trip in 2015 and 0 otherwise. All migrants who started their trip in the third and fourth quarter of 2014 are dropped from the sample. The results are robust to the alternative definition of the post-program period and indicate that the findings in Table 3 are not driven by individuals who migrated shortly after the SBP was announced.

A further concern is that the findings may be driven by one origin country in particular. To test whether this is the case, I conduct the analysis for each origin country separately. The results, which are presented in Panel C of Table 4, show that the size of the effect of the SBP on remigration intentions varies across countries, but is negative and statistically significant for the preferred specification in column VI for all countries.

Finally, the results might not take into account enforcement measures at the US-Mexico border and how these affect migration intentions of both Central American and Mexican deportees. So far, it has been assumed that changes in migration enforcement at the US border are a common shock for both treatment and control groups and should be accounted for by including time fixed effects. This assumption is plausible if Mexicans and Central

Americans choose the same locations to cross the US-Mexico border. If this is not the case, then enforcement changes in US Border Patrol sectors would affect both groups differently. Table A4 in the Appendix reports the share of Central American migrants apprehended at the US border in a given year by US Border Patrol Sector relative to the apprehension of Central Americans and Mexicans. The shares show an increase in apprehensions of Central American migrants in all Border Patrol Sectors from 2012 to 2015. Moreover, it shows that the majority of apprehensions for both groups happen in three Border Patrol sectors[17]. This indicates that Central American and Mexican unauthorized immigrants do choose similar crossing points in the US-Mexico border. To test this empirically, I control for Border Patrol Sector fixed effects instead of apprehension state fixed effects. Mexican deportees indicate the Mexican border city where they crossed the border, while Central American deportees indicate the city they were heading to (to cross the US-Mexico border). Using this information, I assign a Border Patrol Sector to both groups of deportees. The Border Patrol dummy variables can capture time-invariant characteristics that correlate with the decision to migrate, such as specific geographic characteristics at the border or sectors with stricter enforcement measures in place. The results, reported in Panel D of Table 4, are robust to the inclusion of Border Patrol Sector fixed effects as well as the interaction of these fixed effects with a linear time trend.

5.3 Heterogeneous Effects

In order to test if deportees' respond to the program immediately or with a time lag, and whether this response is time-persistent, equation (1) has been re-estimated including interaction terms for the treatment group with time dummies for each quarter before and after the program was announced. Figure 5 plots the point estimates and their respective confidence intervals. While all the point estimates before the third quarter of 2014 (pre-program period) are not significantly different from zero, a negative differential can be observed in the post-program period. The effect becomes larger and statistically significant after the first quarter of 2015. This is consistent with the descriptive evidence

[17]Rio Grande Valley (Texas), Tucson (Arizona), and Laredo (Texas).

provided in Figure 3 which shows that the largest increase in terms of checkpoints and raids by Mexican authorities started after January 2015.

In addition, I estimated equation (1) for different sub-groups to test whether the coefficients for the groups differ significantly. In particular, I split the sample by (i) gender, (ii) previous migration experience, (iii) employment status before migration, and (iv) access to a network in the US, indicated by relatives or friends currently living in the US.

The results reported in Table 5 indicate that there are no significant differences of the effect of the program on men and women. Somewhat surprisingly, the same holds for deportees with previous migration experience vs those without previous migration experience. The deterrence effect of the program is significantly smaller for migrants who were employed before migration in contrast to those who were unemployed. Although this result is surprising, a reasonable explanation is the importance of liquidity constrains. While individuals might have strong motivations to leave their origin country, the costs of migration are an impediment for most migrants. A restrictive income level would make it difficult to accumulate the necessary savings to pay the trip costs (see e.g., Djajic *et al.*, 2016). Migrants who were employed before migration may be less financially constrained and can afford to move in the short-run.

The deterrence effect of the program appears to be significantly larger for migrants without family and friends in the US. This result is consistent with previous literature on migration networks in the destination country. These networks can (i) be a source of credit (Dolfin and Genicot, 2010; Comola and Mendola, 2015), (ii) ease the access to the labor market, and (iii) improve labor market opportunities for the migrant e.g. transition from agricultural to non-agricultural jobs (Munshi, 2003). Therefore, it is consistent that migrants with access to these networks are less affected by the program than migrants without access to networks.

I further test whether the SBP curbs recidivism intents of the group of migrants who were not apprehended and deported by Mexican authorities. I estimate equation (1) using data on Central American migrants apprehended and deported by US authorities (EMIF North). The data consists on Central American deportees who started their trip

to the US between 2012 and 2015 and transited through Mexico. The main difference is that these migrants were not caught by Mexican authorities. This group of migrants crossed the US-Mexico border and were later apprehended by US authorities. While this allows making some inferences on the group of immigrants who were not apprehended by Mexican authorities, it does not allow making inferences on the group of Central American unauthorized immigrants who avoided both Mexican and US authorities and settled in the US illegally. The results, however, can provide some evidence on whether irregular immigrants respond to tougher enforcement if they are not apprehended by the corresponding authorities. The results reported in Table 6 indicate that the effect of the SBP on the probability of intending to remigrate to the US is essentially zero for the group of deportees apprehended by US authorities. This finding suggests that additional enforcement in Mexico is only effective in deterring migrants if they are apprehended and deported while being on transit.

6 Conclusion

During the last decade, there has been an increase in immigration enforcement cooperation between destination and neighboring countries, aimed at decreasing the arrival of unauthorized migrants and refugees. While a large body of literature focuses on the effect of immigration enforcement in destination countries on unauthorized migration – mainly the effect of immigration enforcement in the US on the population of Mexican unauthorized immigrants – the question whether bilateral cooperation between destination and neighboring countries curtails unauthorized migration has not been addressed by the empirical literature before. Yet, the surge of bilateral agreements suggests that the success of immigration enforcement efforts in reducing unauthorized migration depends not only on the actions taken by the destination country, but also on the immigration policy of neighboring countries. This study contributes to the existing literature on immigration enforcement by analyzing the effect of tougher immigration enforcement in a transit country on the intentions to remigrate of unauthorized migrants.

In this paper, I examine whether the Southern Border Plan, an enforcement initiative announced by the Mexican government to deter unauthorized migrants in transit through Mexico, has curbed the intentions to remigrate of Central American deportees. Using a DiD approach, I estimate the effect of the SBP on the intention to remigrate for Central American deportees in transit to the US (apprehended by Mexican authorities) relative to Mexican deportees (apprehended by US authorities). While both groups are subject to the same enforcement level at the US border, Central Americans face additional restrictions due to tougher enforcement measures while being on transit.

The results reveal that the introduction of the SBP decreases the likelihood of reporting intentions to return to the US in the near future by about 16 percentage points. In the robustness section, I show that this result is not driven by differences in pre-treatment trends for treatment and comparison groups, by individuals who migrated shortly after the SBP was announced, or by a single country.

Furthermore, the estimated effect of the SBP is heterogeneous across different groups of deportees. For instance, the change in reported intentions for Central American deportees who have relatives or friends in the US is almost zero, highlighting the importance of access to networks in the destination country for the decision to migrate (see e.g., Dolfin and Genicot, 2010). The same result is found for deportees who were employed in their home countries, which reveals that liquidity constraints play also an important role.

Taken together, the results suggest that migration enforcement in transit countries can reshape migration intentions. This provides evidence that bilateral enforcement cooperation between destination and transit countries could be effective in deterring unauthorized migrants in the short-run. Yet, given the vulnerability of migrants in transit and evidence that migration enforcement is not without unintended consequences (see e.g., Amuedo-Dorantes and Pozo, 2014), increased enforcement in transit countries should not be a substitute for safe and legal migration channels.

References

Amuedo-Dorantes, C. and Pozo, S. (2014). On the intended and unintended consequences of enhanced US border and interior immigration enforcement: Evidence from Mexican deportees. *Demography*, **51** (6), 2255–2279.

—, — and Puttitanun, T. (2015). Immigration enforcement, parent–child separations, and intent to remigrate by Central American deportees. *Demography*, **52** (6), 1825–1851.

—, Puttitanun, T. and Martinez-Donate, A. P. (2013). How do tougher immigration measures affect unauthorized immigrants? *Demography*, **50** (3), 1067–1091.

Angelucci, M. (2012). US border enforcement and the net flow of Mexican illegal migration. *Economic Development and Cultural Change*, **60** (2), 311–357.

Bertoli, S. and Moraga, J. F.-H. (2015). The size of the cliff at the border. *Regional Science and Urban Economics*, **51**, 1–6.

Boeri, T. and Brücker, H. (2005). Why are europeans so tough on migrants? *Economic Policy*, **20** (44), 630–703.

Bohn, S., Lofstrom, M. and Raphael, S. (2014). Did the 2007 Legal Arizona Workers Act reduce the state's unauthorized immigrant population? *Review of Economics and Statistics*, **96** (2), 258–269.

Cañas, J., Daly, C. and Orrenius, P. (2011). *Did Operation Streamline Slow Illegal Immigration?* Unpublished Manuscript, Federal Reserve Bank of Dallas, Dallas, TX.

Carling, J. (2007). Migration control and migrant fatalities at the Spanish-African borders. *International Migration Review*, **41** (2), 316–343.

Castañeda, A. (2014). *Programa Frontera Sur o la Política de Persecución de Migrantes en México*. COLEF Observatorio de Legislacion y Politica Migratoria. Mexico, http://observatoriocolef.org/_admin/documentos/Plan%20frontera%20sur%20Noviembre%20FINAL.pdf.

Chiquiar, D. and Hanson, G. H. (2005). International migration, self-selection, and the distribution of wages: Evidence from Mexico and the United States. *Journal of Political Economy*, **113** (2), 239–281.

Comola, M. and Mendola, M. (2015). Formation of migrant networks. *The Scandinavian Journal of Economics*, **117** (2), 592–618.

Cornelius,
of US immigration control policy. *Population and Development Review*, **27** (4), 661–685.

Creighton, M. J. (2013). The role of aspirations in domestic and international migration. *The Social Science Journal*, **50** (1), 79–88.

Dávila, A., Pagán, J. A. and Soydemir, G. (2002). The short-term and long-term deterrence effects of INS border and interior enforcement on undocumented immigration. *Journal of Economic Behavior & Organization*, **49** (4), 459–472.

Djajić, S. (2017). Transit migration. *Review of International Economics*, **25** (5), 1017–1045.

Djajic, S., Kirdar, M. G. and Vinogradova, A. (2016). Source-country earnings and emigration. *Journal of International Economics*, **99**, 46–67.

Djajić, S. and Michael, M. S. (2014). Controlling illegal immigration: on the scope for cooperation with a transit country. *Review of International Economics*, **22** (4), 808–824.

Docquier, F., Peri, G. and Ruyssen, I. (2014). The Cross-country Determinants of Potential and Actual Migration. *International Migration Review*, **48** (1), 37–99.

Dolfin, S. and Genicot, G. (2010). What do networks do? The role of networks on migration and "coyote" use. *Review of Development Economics*, **14** (2), 343–359.

Dominguez Villegas, R. (2014). Central American Migrants and "La Bestia": The Routes, Dangers, and Government Responses. *Migration Information Source*.

Donato, K. M., Durand, J. and Massey, D. S. (1992). Stemming the tide? Assessing the deterrent effects of the Immigration Reform and Control Act. *Demography*, **29** (2), 139–157.

European Commission (2017). EU-Turkey Statement One Year On. https://ec.europa.eu/home-affairs/what-we-do/policies/european-agenda-migration/background-information_en, accessed: 2017-08-14.

Gathmann, C. (2008). Effects of enforcement on illegal markets: Evidence from migrant smuggling along the southwestern border. *Journal of Public Economics*, **92** (10), 1926–1941.

Giordani, P. E. and Ruta, M. (2013). Coordination failures in immigration policy. *Journal of International Economics*, **89** (1), 55–67.

Guido, F., Manchin, M., Mendola, M. and Prarolo, G. (2017). *Human Smuggling and Intentions to Migrate: Global Evidence from a Supply Shock along Africa-to-Europe Migration Routes*. Working Papers 375, University of Milano-Bicocca, Department of Economics.

Hanson, G. (2006). Illegal migration from Mexico to the United States. *Journal of Economic Literature*, **44** (4), 869–924.

Hoekstra, M. and Orozco-Aleman, S. (2017). Illegal Immigration, State Law, and Deterrence. *American Economic Journal: Economic Policy*, **9** (2), 228–52.

IOM – International Organization for Migration (2015). Global Migration Trends Factsheet. http://gmdac.iom.int/global-migration-trends-factsheet, accessed: 2016-27-10.

IOM – International Organization for Migration (2018). World Migration Report. https://publications.iom.int/system/files/pdf/wmr_2018_en.pdf, accessed: 31-01-18.

Kossoudji, S. A. (1992). Playing cat and mouse at the US-Mexican border. *Demography*, **29** (2), 159–180.

Lofstrom, M., Bohn, S. and Raphael, S. (2011). *Lessons from the 2007 legal Arizona workers Act*. San Francisco: Public Policy Institute of California, California.

Massey, D. S., Durand, J. and Malone, N. J. (2002). *Beyond smoke and mirrors: Mexican immigration in an era of economic integration*. Russell Sage Foundation, New York.

— and Pren, K. A. (2012). Unintended consequences of US immigration policy: Explaining the post-1965 surge from Latin America. *Population and Development Review*, **38** (1), 1–29.

McKenzie, D. and Rapoport, H. (2007). Network effects and the dynamics of migration and inequality: theory and evidence from Mexico. *Journal of Development Economics*, **84** (1), 1–24.

Munshi, K. (2003). Networks in the modern economy: Mexican migrants in the US labor market. *The Quarterly Journal of Economics*, **118** (2), 549–599.

Orrenius, P. M. and Zavodny, M. (2005). Self-selection among undocumented immigrants from Mexico. *Journal of Development Economics*, **78** (1), 215–240.

Ratha, D., Eigen-Zucchi, C. and Plaza, S. (2016). *Migration and remittances Factbook 2016*. World Bank Publications.

Rodríguez Chávez, E. (2017). Central American migrants in irregular transit through Mexico: New figures and trends. *CANAMID Policy Brief Series*, **14**, http://canamid.org/en/publication?id=PB014.

SEGOB – Secretaría de Gobernación. (2014a). Decreto por el se crea la Coordinación para la Atención Integral de la Migración en la Frontera Sur. *Diario Oficial de la Federación*.

SEGOB – Secretaría de Gobernación. (2014b). *Plan Nacional de Desarollo 2014-2018*. SEGOB, Mexico, D.F.

SEGOB-CAIMFS – Secretaría de Gobernación. (2015). *Informe de Actividades Julio 2014 - Julio 2015*. SEGOB, Mexico, D.F.

Seelke, C. R. and Finklea, K. M. (2017). US-Mexican security cooperation: The Mérida initiative and beyond. *Congressional Research Service Report for Congress*.

UNODC – United Nations Office on Drugs and Crime (2010). *The Globalization of Crime: A Transnational Organized Crime Threat Assessment*. United Nations Publications.

CBP – US Customs and Border Patrol (2016). United States Border Patrol Southwest Family Unit Subject and Unaccompanied Alien Children Apprehensions Fiscal Year 2016. https://www.cbp.gov/newsroom/stats/southwest-border-unaccompanied-children/fy-2016, accessed: 2017-08-02.

DHS – US Department of Homeland Security (2016). *Entry/Exit Overstay Report Fiscal Year 2016*. DHS, Washington D.C.

van Dalen, H. P. and Henkens, K. (2013). Explaining emigration intentions and behaviour in the Netherlands, 2005–10. *Population Studies*, **67** (2), 225–241.

Figures

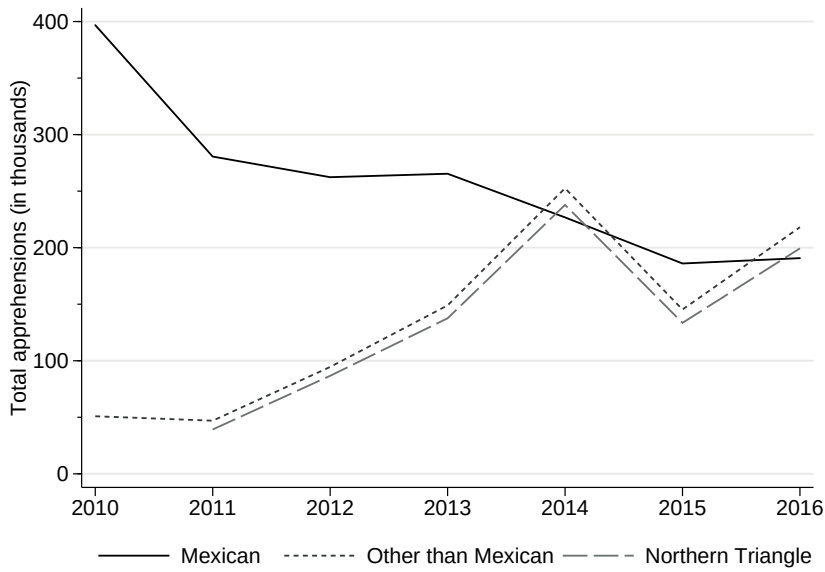

Figure 1: Total Illegal Alien Apprehensions at the US Southwest Border by Fiscal Year
Source: Author's analysis based on data from CBP (2016).

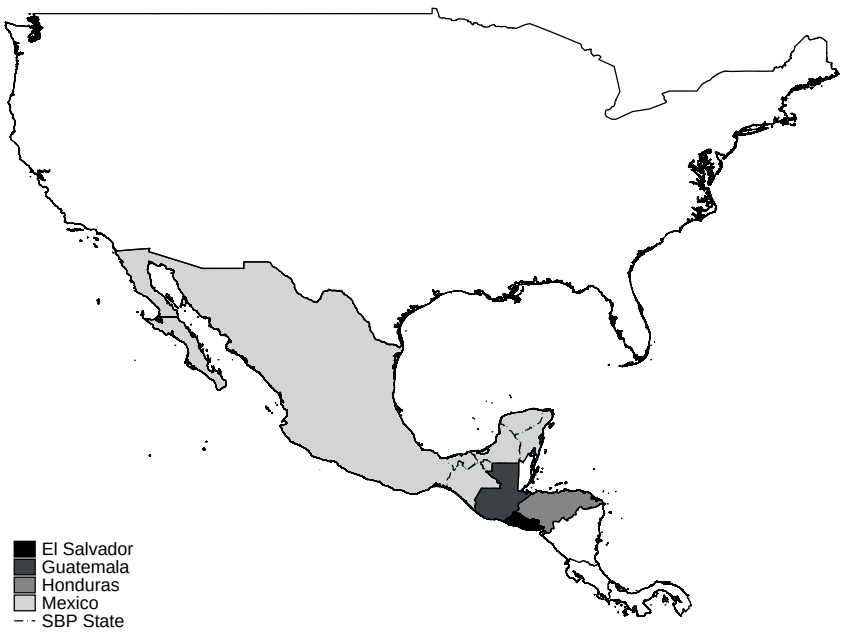

Figure 2: Northern Triangle and the Southern Border Plan
Source: Author's representation.

Note: The figure above shows a map of North America and Central America. The dotted line shows the Mexican states where the SBP is mainly implemented: Campeche, Chiapas, Quintana Roo, and Tabasco.

Figure 3: Deportations, Apprehensions, and Checkpoints by Mexican Authorities

Source: Author's analysis using data requested to the INM.

Figure 4: Evolution of the Average Intentions to Remigrate

Source: Author's analysis.

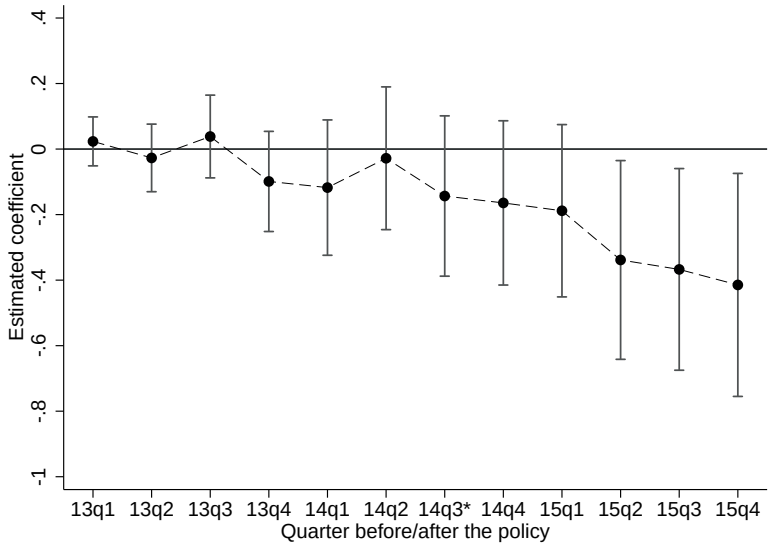

Figure 5: Estimated impact of the Southern Border Plan on Migration Intentions

Notes: – The results are obtained from OLS regressions of Eq. (2) including the full set of control variables, state of origin, state of apprehension, and time fixed effects, as well as an interaction with a linear time trend. – Confidence intervals are calculated at the 95% level and the standard errors are clustered at the origin-department level.

Tables

Table 1: Pre-program Descriptive Statistics

	All deportees		Treatment		Control		
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Δ Mean
Dependent variables							
Intent to remigrate (short run)	0.480	0.500	0.545	0.498	0.354	0.478	-0.190^{***}
Intent to ever remigrate	0.692	0.462	0.738	0.440	0.601	0.490	-0.137^{***}
Independent variables							
Male	0.854	0.353	0.866	0.341	0.832	0.374	-0.034^{***}
Age	27.698	8.004	27.186	7.551	28.690	8.732	1.504^{***}
Speaks English	0.040	0.195	0.007	0.082	0.103	0.304	0.096^{***}
Education							
No education	0.051	0.220	0.069	0.254	0.015	0.123	-0.054^{***}
Primary education	0.419	0.493	0.477	0.499	0.308	0.462	-0.169^{***}
Secondary education	0.325	0.469	0.251	0.434	0.469	0.499	0.218^{***}
High school	0.188	0.391	0.186	0.389	0.191	0.393	0.005
Tertiary education	0.017	0.129	0.017	0.129	0.017	0.128	−0.000
Married	0.469	0.499	0.418	0.493	0.570	0.495	0.153^{***}
Head	0.464	0.499	0.423	0.494	0.543	0.498	0.120^{***}
HH size	5.183	2.221	5.351	2.200	4.858	2.224	-0.493^{***}
Employed before migration	0.635	0.482	0.642	0.479	0.620	0.485	-0.022^{***}
Has family/friends in the U.S.	0.689	0.463	0.704	0.457	0.660	0.474	-0.044^{***}
Money spent (in 1,000 USD)	0.367	0.716	0.330	0.768	0.440	0.594	0.110^{***}
Borrowed money to cross	0.473	0.499	0.311	0.463	0.785	0.411	0.474^{***}
Used a coyote	0.418	0.493	0.271	0.445	0.703	0.457	0.431^{***}
Persons traveling together	2.641	5.019	0.854	1.687	6.102	7.093	5.248^{***}
Traveled with children	0.040	0.196	0.029	0.168	0.061	0.240	0.032^{***}
Previous number of crossings	0.415	1.416	0.146	0.408	0.938	2.269	0.792^{***}
Country of origin							
El Salvador	0.297	0.457	0.450	0.497	–	–	–
Guatemala	0.215	0.411	0.327	0.469	–	–	–
Honduras	0.148	0.355	0.224	0.417	–	–	–
Mexico	0.340	0.474	–	–	1.000	0.000	–
Observations	18,455		12,172		6,283		

Notes: – Pre-program defined as the interval between 1/1/2012 to 30/6/2014. Treatment group defined as individuals who were deported by Mexican authorities to their origin countries: El Salvador, Honduras, Guatemala. Control group defined as Mexicans who were deported by US authorities. – The last column shows the difference in mean values between Central American and Mexican deportees.

Table 2: Southern Border Plan and Intent to Remigrate, DiD 2012-2015

	Pre-program I	Post-program II	Difference III
Treatment group	0.545	0.307	−0.238
Control group	0.354	0.311	−0.043
Estimated DiD			−0.195***
			(0.015)

*Notes: – Pre-program defined as the interval between 1/1/2012 to 30/6/2014. Treatment group defined as individuals who were deported by Mexican authorities to their origin countries: El Salvador, Honduras, Guatemala. Control group defined as Mexicans who were deported by US authorities. – Results based on 26,663 observations. – Standard errors in parentheses. – *** $p < 0.01$; ** $p < 0.05$; * $p < 0.1$.*

Table 3: Effect of Southern Border Plan on the Intent to Remigrate

	I	II	III	IV	V	VI
Ind. is C.A.*Post SBP	−0.295***	−0.306***	−0.329***	−0.303***	−0.150***	−0.157***
	(0.043)	(0.043)	(0.043)	(0.041)	(0.036)	(0.037)
Male	–	0.058***	0.059***	0.061***	0.074***	0.075***
		(0.011)	(0.010)	(0.010)	(0.011)	(0.011)
Age	–	0.000	0.000	0.000	0.000	0.000
		(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Speaks English	–	−0.004	0.001	−0.003	0.008	0.006
		(0.016)	(0.018)	(0.017)	(0.017)	(0.016)
Ref: No education						
Primary education	–	0.010	0.010	0.011	0.016	0.016
		(0.012)	(0.012)	(0.012)	(0.012)	(0.012)
Secondary education	–	0.016	0.018	0.023**	0.028**	0.029**
		(0.012)	(0.011)	(0.011)	(0.011)	(0.011)
High school	–	0.011	0.013	0.018	0.023	0.024*
		(0.015)	(0.015)	(0.015)	(0.014)	(0.014)
Tertiary education	–	0.044	0.050*	0.049*	0.065**	0.064**
		(0.028)	(0.028)	(0.027)	(0.027)	(0.027)
Married	–	−0.030***	−0.032***	−0.031***	−0.032***	−0.033***
		(0.009)	(0.009)	(0.009)	(0.009)	(0.009)
Head	–	0.018**	0.024***	0.026***	0.020**	0.021**
		(0.009)	(0.009)	(0.008)	(0.008)	(0.008)
HH size	–	0.004*	0.003	0.004*	0.003	0.003
		(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Has family/friends in the U.S.	–	0.087***	0.082***	0.077***	0.067***	0.068***
		(0.011)	(0.010)	(0.009)	(0.010)	(0.010)
Employed before migration	–	−0.054***	−0.051***	−0.054***	−0.065***	−0.066***
		(0.010)	(0.010)	(0.010)	(0.011)	(0.011)
Ln(money spent)	–	–	−0.018***	−0.014**	−0.010	−0.009
			(0.006)	(0.007)	(0.006)	(0.006)
Borrowed money to cross	–	–	0.076***	0.082***	0.101***	0.101***
			(0.015)	(0.014)	(0.016)	(0.016)
Used a coyote	–	–	−0.001	−0.001	0.006	0.005
			(0.010)	(0.009)	(0.009)	(0.009)
Persons traveling together	–	–	0.006***	0.007***	0.007***	0.008***
			(0.001)	(0.001)	(0.001)	(0.001)
Traveled with children	–	–	−0.053***	−0.054***	−0.044***	−0.044***
			(0.015)	(0.015)	(0.014)	(0.014)
Previous number of crossings	–	–	0.007***	0.005**	0.004*	0.003
			(0.002)	(0.002)	(0.002)	(0.002)
Constant	0.745***	0.609***	0.676***	0.688***	0.860***	0.654***
	(0.025)	(0.036)	(0.031)	(0.061)	(0.061)	(0.122)
Quarter FE	yes	yes	yes	yes	yes	yes
Origin department FE	yes	yes	yes	yes	yes	yes
App. state FE	no	no	no	yes	yes	yes
Origin department time trend	no	no	no	no	yes	yes
App. state time trend	no	no	no	no	no	yes
Observations	26,663	26,663	26,663	26,663	26,663	26,663
R^2	0.130	0.139	0.146	0.157	0.192	0.195

*Notes: – Results are obtained from OLS regressions. – Standard errors in parentheses (clustered at the origin-department level). – *** $p < 0.01$; ** $p < 0.05$; * $p < 0.1$.*

Table 4: Effect of Southern Border Plan on the Intent to Remigrate – Robustness

	I	II	III	IV	V	VI
A. Placebo experiment						
	Placebo program (q3-2012)					
Ind. is C.A.*Post SBP	0.002	0.003	−0.004	−0.002	0.055	0.054
	(0.031)	(0.031)	(0.031)	(0.031)	(0.033)	(0.033)
Observations	18,455					
	Placebo program (q3-2013)					
Ind. is C.A.*Post SBP	−0.037	−0.035	−0.039	−0.030	−0.014	−0.015
	(0.037)	(0.037)	(0.037)	(0.037)	(0.033)	(0.034)
Observations	18,455					
B. Alternative post-program period						
	Time period: 2012-2015 (excluding q3 and q4 of 2014)					
Ind. is C.A.*Post SBP	−0.188***	−0.201***	−0.204***	−0.164***	−0.131***	−0.131***
	(0.030)	(0.031)	(0.032)	(0.031)	(0.042)	(0.044)
Observations	13,375					
C. By origin country						
	El Salvador					
Ind. is C.A.*Post SBP	−0.460***	−0.471***	−0.488***	−0.463***	−0.052	−0.064*
	(0.025)	(0.022)	(0.023)	(0.019)	(0.034)	(0.037)
Observations	17,427					
	Guatemala					
Ind. is C.A.*Post SBP	0.001	−0.002	−0.031	−0.003	−0.200***	−0.202***
	(0.024)	(0.023)	(0.024)	(0.022)	(0.045)	(0.047)
Observations	13,375					
	Honduras					
Ind. is C.A.*Post SBP	−0.188***	−0.201***	−0.204***	−0.164***	−0.131***	−0.131***
	(0.030)	(0.031)	(0.032)	(0.031)	(0.042)	(0.044)
Observations	11,657					
D. US Border Patrol Sector						
	Border Patrol Sector FE					
Ind. is C.A.*Post SBP	−0.271***	−0.284***	−0.305***	−0.286***	−0.142***	−0.125***
	(0.044)	(0.044)	(0.043)	(0.040)	(0.037)	(0.038)
Observations	24,354					

Notes: – Results are obtained from OLS regressions. – Each column controls for the same variables as in Table 3. – Standard errors in parentheses (clustered at the origin-department level). – *** $p < 0.01$*;* ** $p < 0.05$*;* * $p < 0.1$.

Table 5: Effect of Southern Border Plan on the Intent to Remigrate by Sub-Sample

	I	II
A. Gender		
	Male	Female
Ind. is C.A.*Post SBP	-0.139^{***}	-0.205
	(0.041)	(0.131)
Observations	22,327	4,336
Diff. P-Value	0.607	
B. Migration experience		
	First	Multiple
Ind. is C.A.*Post SBP	-0.227^{***}	-0.143^{**}
	(0.065)	(0.055)
Observations	21,872	4,791
Diff. P-Value	0.330	
C. Employment status		
	Employed	Unemployed
Ind. is C.A.*Post SBP	-0.090^{**}	-0.233^{***}
	(0.041)	(0.051)
Observations	14,817	11,846
Diff. P-Value	0.004	
D. Family in the US		
	Yes	No
Ind. is C.A.*Post SBP	-0.091^{**}	-0.320^{***}
	(0.041)	(0.063)
Observations	19,217	7,446
Diff. P-Value	0.001	

Notes: – Results are obtained from OLS regressions. – Same specification as in Column VI from Table 3. – Standard errors in parentheses (clustered at the origin-department level). The figure labeled as "Diff. p-value" indicates the corresponding p-value of testing whether the difference of the coefficients in columns I and II is significantly different from zero. – *** $p < 0.01$*;* ** $p < 0.05$*;* * $p < 0.1$*.*

Table 6: Effect of Southern Border Plan on the Intent to Remigrate – Deported by US authorities

	I	II	III	IV	V	VI
Ind. is C.A.*Post SBP	0.007	0.003	0.006	0.028	-0.055	-0.046
	(0.025)	(0.024)	(0.024)	(0.021)	(0.035)	(0.036)
Quarter FE	yes	yes	yes	yes	yes	yes
Origin department FE	yes	yes	yes	yes	yes	yes
U.S. state FE	no	no	no	yes	yes	yes
Origin department time trend	no	no	no	no	yes	yes
U.S. state time trend	no	no	no	no	no	yes
Observations	23,353	23,353	23,353	23,353	23,353	23,353
R^2	0.066	0.079	0.082	0.093	0.100	0.103

Notes: – Results are obtained from OLS regressions. –Each column controls for the same variables as in Table 3. – Standard errors in parentheses (clustered at the origin-department level). – *** $p < 0.01$*;* ** $p < 0.05$*;* * $p < 0.1$*.*

Appendix

Table A1: Descriptive Statistics: Central American deportees

	All deportees		Pre-program		Post-program	
	Mean	S.D.	Mean	S.D.	Mean	S.D.
Dependent variables						
Intent to remigrate (short run)	0.461	0.499	0.545	0.498	0.307	0.461
Intent to ever remigrate	0.706	0.456	0.738	0.440	0.647	0.478
Independent variables						
Male	0.832	0.374	0.866	0.341	0.770	0.421
Age	27.336	7.731	27.186	7.551	27.612	8.045
Speaks English	0.011	0.103	0.007	0.082	0.018	0.133
Education						
No education	0.070	0.255	0.069	0.254	0.070	0.256
Primary education	0.438	0.496	0.477	0.499	0.368	0.482
Secondary education	0.260	0.439	0.251	0.434	0.275	0.447
High school	0.212	0.409	0.186	0.389	0.259	0.438
Tertiary education	0.021	0.142	0.017	0.129	0.027	0.163
Married	0.418	0.493	0.418	0.493	0.419	0.493
Head	0.408	0.491	0.423	0.494	0.380	0.486
HH size	5.211	2.225	5.351	2.200	4.951	2.245
Employed before migration	0.528	0.499	0.642	0.479	0.316	0.465
Has family/friends in the U.S.	0.747	0.434	0.704	0.457	0.828	0.377
Money spent (in 1,000 USD)	0.398	0.874	0.330	0.768	0.524	1.031
Borrowed money to cross	0.351	0.477	0.311	0.463	0.425	0.494
Used a coyote	0.246	0.431	0.271	0.445	0.200	0.400
Persons traveling together	0.714	1.603	0.854	1.687	0.455	1.400
Traveled with children	0.048	0.214	0.029	0.168	0.083	0.277
Previous number of crossings	0.114	0.370	0.146	0.408	0.055	0.279
Country of origin						
El Salvador	0.508	0.500	0.450	0.497	0.615	0.487
Guatemala	0.292	0.455	0.327	0.469	0.228	0.419
Honduras	0.200	0.400	0.224	0.417	0.157	0.364
Observations	18,765		12,172		6,593	

Notes: – Pre-program defined as the interval between 1/1/2012 to 30/6/2014. Post-program defined as the interval between 1/7/2014 and 31/12/2015.

Table A2: Descriptive Statistics: Mexican deportees

	All deportees		Pre-program		Post-program	
	Mean	S.D.	Mean	S.D.	Mean	S.D.
Dependent variables						
Intent to remigrate (short run)	0.345	0.475	0.354	0.478	0.311	0.463
Intent to ever remigrate	0.581	0.494	0.601	0.490	0.500	0.500
Independent variables						
Male	0.849	0.358	0.832	0.374	0.918	0.274
Age	28.858	8.710	28.690	8.732	29.513	8.595
Speaks English	0.110	0.312	0.103	0.304	0.136	0.342
Education						
No education	0.019	0.137	0.015	0.123	0.033	0.178
Primary education	0.308	0.462	0.308	0.462	0.307	0.461
Secondary education	0.471	0.499	0.469	0.499	0.479	0.500
High school	0.185	0.388	0.191	0.393	0.162	0.368
Tertiary education	0.017	0.130	0.017	0.128	0.020	0.139
Married	0.568	0.495	0.570	0.495	0.559	0.497
Head	0.555	0.497	0.543	0.498	0.599	0.490
HH size	4.868	2.371	4.858	2.224	4.905	2.872
Employed before migration	0.623	0.485	0.620	0.485	0.633	0.482
Has family/friends in the U.S.	0.657	0.475	0.660	0.474	0.648	0.478
Money spent (in 1,000 USD)	0.480	0.735	0.440	0.594	0.636	1.112
Borrowed money to cross	0.761	0.427	0.785	0.411	0.664	0.472
Used a coyote	0.674	0.469	0.703	0.457	0.561	0.496
Persons traveling together	5.313	6.714	6.102	7.093	2.241	3.588
Traveled with children	0.055	0.228	0.061	0.240	0.030	0.170
Previous number of crossings	1.069	2.429	0.938	2.269	1.581	2.915
Observations	7,898		6,283		1,615	

Notes: – Pre-program defined as the interval between 1/1/2012 to 30/6/2014. Post-program defined as the interval between 1/7/2014 and 31/12/2015.

Table A3: Descriptive Statistics: Central American deportees – by US authorities

	All deportees		Pre-program		Post-program	
	Mean	S.D.	Mean	S.D.	Mean	S.D.
Dependent variables						
Intent to remigrate (short run)	0.148	0.355	0.153	0.360	0.135	0.342
Intent to ever remigrate	0.486	0.500	0.473	0.499	0.521	0.500
Independent variables						
Male	0.853	0.354	0.865	0.342	0.822	0.382
Age	27.233	7.806	27.237	7.851	27.221	7.688
Speaks English	0.076	0.264	0.072	0.259	0.084	0.277
Education						
No education	0.052	0.222	0.058	0.234	0.036	0.187
Primary education	0.366	0.482	0.389	0.487	0.307	0.461
Secondary education	0.301	0.458	0.297	0.457	0.310	0.463
High school	0.250	0.433	0.230	0.421	0.303	0.460
Tertiary education	0.031	0.174	0.027	0.161	0.043	0.203
Married	0.447	0.497	0.471	0.499	0.385	0.487
Head	0.474	0.499	0.496	0.500	0.418	0.493
HH size	4.847	2.352	4.969	2.379	4.532	2.253
Employed before migration	0.483	0.500	0.554	0.497	0.300	0.459
Has family/friends in the U.S.	0.859	0.348	0.846	0.361	0.893	0.309
Money spent (in 1,000 USD)	3.180	2.834	2.921	2.824	3.848	2.749
Borrowed money to cross	0.736	0.441	0.733	0.442	0.744	0.436
Used a coyote	0.667	0.471	0.655	0.475	0.700	0.458
Persons traveling together	5.956	9.618	7.122	10.245	2.947	6.915
Traveled with children	0.106	0.308	0.124	0.330	0.059	0.236
Previous number of crossings	0.482	0.892	0.491	0.903	0.458	0.862
Country of origin						
El Salvador	0.392	0.488	0.343	0.475	0.521	0.500
Guatemala	0.341	0.474	0.400	0.490	0.189	0.392
Honduras	0.266	0.442	0.257	0.437	0.290	0.454
Observations	15,464		11,144		4,320	

Notes: – Pre-program defined as the interval between 1/1/2012 to 30/6/2014. Post-program defined as the interval between 1/7/2014 and 31/12/2015.

Table A4: Apprehensions by Border Patrol Sector

	2012		2013		2014		2015	
US Border Patrol Sector	Apprehensions	% C.A.	Apprehensions	% C.A.	Apprehensions	% C.A.	Apprehensions	% C.A.
Rio Grande Valley – Texas	101,726	51.77	165,587	64.15	239,707	73.65	154,583	69.69
Tucson – Arizona	120,346	14.77	118,125	15.46	76,279	19.83	62,729	22.56
Laredo – Texas	46,474	29.02	48,049	34.92	41,470	33.91	35,385	26.61
San Diego – Texas	27,166	3.39	27,799	3.60	29,540	5.92	25,483	7.70
Del Rio – Texas	22,614	42.63	23,056	42.15	22,644	55.33	21,353	46.05
El Paso – Texas	10,105	5.43	10,728	8.86	12,117	16.08	16,672	32.98
El Centro – California	22,332	4.16	15,368	7.35	13,855	13.06	13,347	12.32
Yuma – Arizona	6,110	7.92	5,739	9.46	5,317	23.06	9,278	59.11
Big Bend – Texas	3,753	11.19	3,576	12.50	4,019	23.39	6,008	62.93
Total	360,626	26.86	418,027	37.09	444,948	50.78	344,838	46.26

Notes: – The columns show the total apprehensions of Mexicans and Central Americans by Border Patrol sector in a given year as well as the share of Central Americans apprehended. The data was requested to the US Department of Homeland Security.