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Empowering Migrants:
Impacts of a Migrant's Amnesty on Crime Reports[*]

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Abstract

How can the regularization of approximately half a million migrant's impact crime reports in hosting areas? To identify the effects of this large amnesty, we match confidential administrative data on the location of undocumented migrants with department-monthly data from crime reports and compare crime outcomes in departments that were granted different average time windows to register for the amnesty online, before and after the amnesty roll-out. We document that the regularization caused a reduction of domestic crime and an increment on sexual crime reports. Both results are in line with qualitative evidence suggesting that the regularization empowered migrants to report crimes against them and also improved their mental health.

JEL Classification: D72, F2, O15, R23

Keywords: Migration, Crime, Regularization

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I Introduction

Previous studies have documented a negative causal relationship between the provision of a regular migratory status to undocumented immigrants and crime in developed countries (see Pinotti, 2017; Baker, 2017). Does this relationship also hold for migrants and refugees who arrive to developing countries, with large informal sectors? It is plausible that, inside developing countries, forced migrants may not have the same incentives to formalize as enforcement is lower and informal opportunities are more common. Additionally, forced migrants may not be interested in assuming the fiscal costs associated with a formal legal status as they may never receive enough benefits to compensate for their contributions. For instance, they may be uncertain on the duration of their stay, and as a consequence, may not be interested in contributing to social security. Consequently, a legalization of forced migrants may face low take-up rates specially if migrants are already receiving humanitarian assistance and associate their legalization only with tax contributions.

We explore the answer to this question in the recent Colombian context. As a consequence of the authoritarian regime by Hugo Chávez and (his successor) Nicolás Maduro, Colombia has experienced a large and sudden wave of crisis-driven Venezuelan migrants. According to the last data from Colombian migration authorities, by 2020 the number of Venezuelans in Colombia was of approximately 1.8 million. In August of 2018, then Colombia's President Juan Manuel Santos, decreed the issuance of the *Permiso Temporal de Permanencia* (known as PEP) –a regular migratory status– to approximately half a million undocumented Venezuelan migrants. The PEP grants migrants a two year job permit as well as the possibility to be scored by SISBEN, the mean proxy test used to target social programs in Colombia. As such, the PEP is a generous amnesty enabling migrants to apply for a formal job and accessing other social services, including complete health services through the Subsidized Health Regime in Colombia. Importantly, a prerequisite to receive the PEP was not having any criminal records or pending deportation orders.

This paper examines the impacts of the PEP program in Colombian crime reports. For this purpose, we employ monthly-departmental data on crime reports. We exploit the fact that each

undocumented migrant who was eligible for the program was granted a registry number that was exogenously allocated at the time of registration. Based on this number, individuals were exogenously allocated to one of 22 time windows for applying for the PEP visa online. According to government officials, scattering the applications across several months was done to avoid overloading public servants in charge of processing the amnesty. Using the exogenous assignment of time windows, we estimate an average time window available to register in the PEP program for the immigrants residing in each department. Consequently, our empirical strategy compares crime reports between departments with different average time windows to register in the program online, before and after the program was rolled out in August 2018. As we show in our analysis, the departments that had longer average time windows resulted in a disproportionately high number of PEP holders. As part of our analysis, we test whether the average registration days are correlated with observable covariates before the onset of the program and find no statistically significant coefficients for any of the variables, consistently with the claim that the numbers were exogenously allocated.

We do not find significant effects of the amnesty in total crime reports in line with a large body of evidence suggesting that migrants typically do not impact crime incidence (see Azjenman et al., 2020; and Knight and Tribin, 2020 for recent examples). We document, however, that the migrant's regularization induced reductions in domestic crime and also caused increments in sexual crime reports. Particularly, we find that when the rate of PEP migrants per 100,000 inhabitants increases by 1 percentage point, domestic crime drops by 0.02% and sexual crimes increases by 0.03%. These effects are concentrated in females who are typically the most common victims of this types of offenses. Evidence from qualitative structured interviews with Venezuelan migrants in Colombia suggests that both of these effects are positive for migrants and emerge because the PEP empowered individuals to report abuses to their basic human rights (without fearing deportations) and reduced their stress levels, which are often known to lead to domestic abuse within households.

What explains that the amnesty increased sexual crime reports but reduced reports of domestic violence? Sexual crimes occur inside and outside of the household. If women feel more at ease

to report those crimes once they have the PEP, those reports should increase. This is in line with all our conversations with migrant women, who report that men in Colombia show strong biases and beliefs that an overwhelming majority of Venezuelan migrants are sexual workers. Colombian men's views are not correct but the PEP may empower women to report sexual crimes.

Concerning domestic violence our results may be driven by two trends. Having the PEP may reduce stress and as such lower domestic violence. Yet, women could also feel more empowered to report domestic violence. Overall, we observe that the stress channel seems to be larger.

Our results are robust when we include a large number of controls to flexibly account for potential differential non-parametric trends on a number of municipal pre-established characteristics. These include controls for pre-existing differences across municipalities in crime, conflict, economic growth, economic activity, government size, financial sector size, and sector composition.

Our paper contributes to two groups of literature. First, it contributes to the literature that studies the relation between immigration and crime (see Butcher and Piehl, 1998; Borjas et al., 2010; Bianchi et al., 2012; Alonso-Borrego et al., 2012; Bell et al., 2013; Freedman et al., 2018; Spenkuch, 2014; Azjenman et al., 2020; and Knight and Tribin, 2020 for recent examples). Within these group of studies the closest to ours are Pinotti (2017) and Baker (2017) who study the impacts of immigrant regularization in Italy and the Unites States. Second, our work contributes to the studies that explore the impacts of migrant amnesty in hosting countries (see Kossoudji and Cobb-Clark, 2002; Bratsberg et al., 2002; Orrenius and Zavodny, 2003; Kaushal, 2006; Amuedo-Dorantes et al., 2007 for examples). Most of these studies focus on examining the impacts of large-scale amnesties in labor markets within developed countries. Our paper contributes to these groups of literature by, for the first time, studying the crime effects of a large, sudden and generous amnesty of crisis-driven migrants inside an economy with a large informal sector and initial high crime rates. Our results may also prove useful to inform other developing countries which are considering granting job permits.

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II   Venezuela's Humanitarian Crisis

The election of Hugo Chávez in 1998 and the subsequent continuation of his policies by Nicolás Maduro (who gain power in 2011, following the sharp deterioration of Chávez' illness) has led to the displacement of over five million Venezuelans from their home country, most of which flee the country after 2015 (UNHCR, 2018). Pro-cyclical populist policies, unsustainable public debt, low oil prices, and massive amounts of controls and regulations over the private sector have induced a deep economic recession in Venezuela, which combined with hyperinflation[1] has resulted in severe shortages of food and medicine and high levels of crime. In fact, the GDP of the country has fallen by over 50 percent since 2013 (Long, 2018).

By 2020, the situation in Venezuela has become a fully-fledged humanitarian crisis, perhaps the worst in the modern history of the Western Hemisphere. Eighty-seven percent of households are below the national poverty line, up from less than 50 percent in 1996. Extreme poverty stands at above 60 percent. About three-quarters of the population have lost, involuntarily, an average of 20 pounds, and one-third of the population eats twice per day or less (Sequera, 2018). Health indicators are also dramatically worsening. Lower- and middle-class Venezuelans who used to rely on the public health system have been hit hard by the crisis. Independent sources claim that the infant death rate has increased by at least 30 percent and maternal mortality has gone up 65 percent since the government stopped reporting health outcomes in 2015 (The Guardian, 2017). Patients with chronic diseases such as cancer, renal failure, or diabetes cannot access the medicines they need on a regular basis (Jones and Pozzebon, 2018).

According to the latest estimates by the refugee agency of the United Nations, approximately four million crisis-driven migrants are being hosted by regional neighbors, the vast majority –over one 1.8 million– in neighboring Colombia (other common destinations include Peru, Ecuador, Argentina, Chile and Brazil).

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[1]The IMF estimates that hyperinflation will hit 1.37 million percent by the end of 2018, with prices doubling every 26 days (IMF, 2018).

II.1 The Migrant's Amnesty - The PEP Program

Colombia has led the regional efforts to regularize the status of Venezuelan immigrants. As is typical in crisis-driven migration processes, a large share of the Venezuelans who migrated to Colombia did so without going through the formal migratory process. To identify the undocumented migrants, the Colombian authorities administered a registry throughout 1,109 authorized points in 413 municipalities between April and June of 2018. The objective of the registry was to count, identify, and gather information on undocumented Venezuelan migrants residing in Colombia at the moment. The registry is known as the *Registro Administrativo de Migrantes Venezolanos* (RAMV). By the end of the registration period, 442,462 undocumented Venezuelans, belonging to to 253,575 different households, registered in the RAMV.

The registry was voluntary and open to all undocumented Venezuelans residing in Colombia. In advertising the RAMV, the government explicitly stated that registering will not result in deportations or have any negative legal consequences. The RAMV was never advertised as a platform to receive work permits or any other legal benefit that would facilitate their stay. In fact, it was advertised simply as a registry to count and identify migrants. In conversations with government officials who oversaw the process, we were able to confirm that, in fact, these were the actual intentions.

However, in August of 2018, days before leaving office, outgoing President Juan Manuel Santos decreed that all those Venezuelans registered in the RAMV would be eligible to receive a regular migratory status that would allow them to stay in the country and join the labor force. In particular, the undocumented migrants registered in RAMV would be able to apply the *PEP*, a comprehensive two-year job permit. The undocumented RAMV migrants were able to request the PEP in a specified time window based on their RAMV registration number, which was provided to them as their record was entered into the system, in real time. The number was exogenously allocated to each immigrant across all the authorized points. As of November of 2018, 202,046 of the 442,462 individuals deemed eligible for the PEP had received one.

According to the RAMV data, the immigrants under consideration are young and have a moderate level of education: 75 percent of RAMV migrants are between the ages of 15 and 64, and over 83 percent of this group has completed at least secondary education. In fact, compared with the Colombian labor force, this group is younger and more educated. According to 2018 population estimates, 66 percent of the Colombian population is between the ages of 15 and 64, and 61.5 percent of the active labor force in 2017 had completed at least basic secondary education. At the time of the implementation of the RAMV survey, 46.3 percent of working age migrants were engaged in some level of employment in the informal sector.

III   Empirical Strategy

III.1   Data

We exploit monthly and departmental variation in our estimates. The data that we use can be grouped as follows:

1. *Registro Administrativo de Migrantes Venezolanos, RAMV*. We use administrative data sourced from the RAMV survey from where we get the number of PEP applicants by department, as well as the the allocated time window that each individual had for registration to the PEP (based on the registration number).

2. *Crime Reports*. We use the reports published by the Colombian National Police with daily counts on all crime reported in Colombia between January of 2017 and August of 2020. The reports include information on the type of crime, the location, and gender of the individual who reports the crime. We use these reports to construct crime counts on a monthly-department basis. The geographic distribution of the mean crime rates per 100,000 individuals is presented in Figure A.1 of Appendix A. The figures illustrate the large geographic variation of crime rates across the country.

3. *Other Municipal Controls.* We use a number of municipal covariates to asses the robustness of our estimates including night light density, conflict-related variables, homicide rates, GDP municipal composition, exports to Venezuela, and proxies for government activity. Administrative information at the municipal level comes from the CEDE municipal panel, the Ministry of Defense, the National Planning Department, and DANE (Colombia's national statistical agency). Night light density comes from the National Oceanic and Atmospheric Administration. We also use controls for early settlements of Venezuelans in Colombia from the Colombian Population Census of 2005.

Table 2 of Appendix A presents the descriptive statistics for all the variables we used in our analysis.

III.2   Identification Strategy

We cannot correctly assess the impacts of the PEP program by simply comparing the socioeconomic outcomes in areas with different relative sizes of recently regularized populations since migrants arguably self-select into regions based on socioeconomic characteristics, crime being potentially one of them. Thus, it is possible that Venezuelan migrants choose areas that are less violent. As such, a simple mean comparison of crime reports in areas with different sizes of PEP holders will be biased.

Moreover, migrant's decisions are dynamic, and hence, concerns related to the endogenous choices of migrant's location into specific areas are not solved by merely adding fixed effects by geographic location or time. Fixed effects by area account for all the time-invariant characteristics of geographic units; and time fixed effects account for all the aggregate trends that are consistent across the country. Yet, only including area and time fixed effects ignores the dynamic behavior of migrants. To account for that dynamic behavior, we need to instrument the treatment of the PEP program with a variable that has geographic and monthly variation. Our identification strategy aims to correct for these biases by using a 2SLS estimation.

Considering that the time windows allocated for the registration to the PEP visa were exogenous, we instrument for the treatment—the share of undocumented migrants who received PEP status in each department—by exploiting the size of the time window that undocumented immigrants had to request a PEP in each department, similarly to what is suggested by (Bahar et al., 2020). This approach is based on the fact that, as explained above, the time window allotted to each undocumented immigrant to request a PEP was exogenous to the immigrant and depended on the form number in the individual's RAMV registration. As mentioned above, government officials report that this scattered approach was done to distribute the registration load on public officials evenly across time.

Consequently, we estimate the following 2SLS difference-in-difference specification[2]

$$Y_{mdt} = \alpha \underbrace{\left[\text{PEP}_d \times I(\text{Post Aug. 2018})_t\right]}_{X_{dt}} + \sum_{c\epsilon Z}[c_{md} \times \psi_y] + \gamma_d + \gamma_t + \epsilon_{mdt} \qquad (1)$$

$$X_{dt} = \alpha\left[\text{Reg. Days}_d \times I(\text{Post Aug. 2018})_t\right] + \sum_{c\epsilon Z}[c_{md} \times \psi_y] + \beta_d + \beta_t + \mu_{mdt} \qquad (2)$$

where the subscripts m stands for municipality, d stands for department (the equivalent of a state in the United States), t stands for year-month variation, and y for year variation. Y represents the logarithm of the total number of crime reports,[3] PEP corresponds to the logarithm of PEP holders per 100,000 inhabitants,[4] and *I(Post August 2018)* is a dummy variable that takes the value of one for any observation for which the month-year is after August of 2018 (when the PEP roll-out began). As such α can be interpreted as an elasticity of crime reports to changes in the share of

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[2]Applying instrumental variables in a difference-in-difference setting is common in the economics literature. As a pioneering example of combining these methods see the seminal study by Duflo (2001).

[3]Particularly, all dependent variables were transformed using the inverse hyperbolic sine transformation (see Burbidge et al., 1988 and MacKinnon and Magee, 1990 for details). The coefficients can be interpreted as a log transformation on the dependent variable.

[4]Specifically, it corresponds to the number of PEP holders (between 10 to 64 years) divided by the population between 10 and 64 years multiplied by 100,000.

regularized population.[5]

Z is a full set of predetermined municipal characteristics measured before the beginning of our period of analysis (in order to reduce endogeneity concerns). Interactions of these variables and year dummies are included in all our estimates to flexibly account for potential differential non-parametric trends on a number of municipal characteristics observed prior to the migrant's legalization. The variables included in Z are (i) Gini index for income in 2005,[6] (ii) percentage of households in Colombia with at least one unsatisfied basic need in 2005, (iii) percentage of households in Colombia with at least one informal worker in 2005, (iv) homicide rates in 2014, (v) terrorist attacks in 1995, (vi) night light density in 2013, (vii) number of financial institution in 1995, (viii) number of tax collection offices in 1995, (ix) agriculture, industry, and services GDP in 2009, (x) central government transfers in 2009, (xi) transfers in education in 2009, (xii) transfers in health in 2009, (xiii) total municipal income in 2016, (xiv) total municipal expenditures in 2016, and (xv) total exports to Venezuela in 2016.

γ_d, γ_t, β_d, and β_t are department, and year and monthly fixed effects. Finally, standard errors are clustered at the municipal level to account for geographic serial correlation.

III.3   Average registration days

The total number of days available for the PEP registration for all migrants in the RAMV ranges between 78 and 141 (with 22 different time windows). Based on the individual time window available to request a PEP, we estimate the average registration days (*Reg. Days* in equation 2) by

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[5]We use the same identification strategy to examine the impacts of the PEP program on the Colombian labor markets in an earlier paper. Please see Bahar et al. (2020) for details.

[6]The variables available in 2005 were calculated with the population census of 2005, the last census available before the PEP program began.

department as:

$$\text{Reg. Days}_d = \sum_{j \epsilon K} \frac{\text{Individuals assigned to time window j}_d}{\text{Total RAMV migrants}_d} \times [\text{Days in time window j}] \quad (3)$$

where K represents each of the 22 possible individual time windows assigned to migrants in the RAMV to request a PEP online.

Consequently, in our empirical strategy, we compare the evolution of crime reports in departments with different average number of days available for requesting a PEP online, before and after the program implementation in August 2018, based on the registration number given to each one of the undocumented immigrants residing in each department.

The distribution of the available registration days to request a PEP for each migrant in the RAMV is presented in Panel A of Figure I. The figure suggests that there is significant variation in the number of days available for registration for the sample of individuals registered in the RAMV census. Figure II and Figure 1 of Appendix B show that the average number of registration days has strong geographic variation. Panel B of Figure I presents the daily flow and total stock of undocumented migrants that registered for the PEP between August and December of 2018. The figure confirms that there is positive growth on the number of individuals who registered for the PEP across the complete window of time open for registration. Figure 1 of Appendix B shows the distribution on the number of individuals registered for the PEP across time and department. It confirms that a positive and strong correlation exists between the average registration days and the share of regularized migrant population (i.e., PEP holders) in each department. Moreover, the figure also illustrates the departmental variation in the instrument. Figure II, also illustrates that there is a positive correlation between the average registration days and the number of individuals who registered for the PEP in each department.

Considering the plausibility of our exclusion restriction, we formally test whether our measure

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of average registration days available by department has any correlation with observable covariates. For this purpose, we regress *Reg. Days* (as defined by equation 3) on a large battery of department covariates observed before the program onset in Appendix B (see Tables B.2 and B.3). These controls include variables related to population, labor markets, geographic characteristics, economic growth, social disparities, violence and conflict, governmental presence, early settlements of Venezuelan refugees in 2005, and total foreign population observed at the beginning of 2018. None of the coefficients is statistically significant, which confirms that the cross-regional variation of average registration days is not explained by department level observable characteristics at baseline. This is consistent with the fact that the registration windows are exogenous.

IV Results

We present the results of equations (1) and (2) in Table I. The table illustrates the results of three different estimation methodologies: the OLS of the crime reports on the number of illegal Venezuelan migrants identified in each municipality, a reduced form regression of crime reports on the instrumental variable, and the 2SLS estimates (including the first stage, in panel D). Each coefficient presented in the table corresponds to a separate regression.

Over all, we are unable to distinguish any significant effects of the amnesty in total crime reports. This is in line with previous studies documenting that migrants are not typically involved in criminal activities, but are typically victimized by criminal groups (see Knight and Tribin, 2020 and Azjenman et al., 2020 for recent examples). We are, however, able to identify that the migrants' regularization induced reductions in reports of domestic violence and also caused increments in sexual crime reports. Particularly, we document that when the rate of PEP migrants per 100,000 inhabitants increases by 1%, domestic violence drops by 0.03% and sexual crime increases by 0.02%.[7]

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[7]As noted above, the right hand side variable on the OLS and 2SLS estimates uses the inverse hyperbolic since transformation, and hence we interpret the coefficients as elasticities.

We examine whether these effects are heterogeneous by gender by replicating the estimates discriminating by whether the report was made by a man or a woman in Tables II and III (except for homicides for which there are no details on the gender of the reporting individual). Our results suggest that migrants receiving a regular migratory status induced larger changes in crime reports from females. This result is consistent with the fact that women tend to be more common victims of these two types of crime.

Our results are in line with the qualitative evidence collected through 42 structured interviews with Venezuelan migrants with regular and irregular migratory status who arrived to Colombia in 2018 (see IPA, 2020 for details). The migrants were located in Bogotá, Medellín, and Barranquilla. In the interviews migrants were asked about the perceptions of the costs and benefits of having or not having a PEP status. The migrants suggested that having the PEP empowered them to request respect for their basic human rights, as they are no longer feel afraid to contact authorities and being deported. As such, it is not surprising, that reports of sexual crimes are higher after the regularization took place. Furthermore, during the interviews, migrants reported that the PEP is also viewed as a powerful document that gives them "peace of mind" since not only it offers migrants the possibility of getting a formal job but also gave them possibility to get access to other social programs (including complete health coverage through the subsidized health regime). It is not surprising then that we observe that the migrants regularization was reflected in a reduction in reporting of domestic violence, which have been shown to be highly correlated with stress levels.

As a robustness test, we also run the estimates using an alternative identification strategy. For this purpose, we use the interaction of early settlements of Venezuelan migrants who were living in Colombia in 1993 (the last population census before the election of Hugo Chávez) and a dummy post treatment. The results are presented in Table 1 of Appendix C. The table confirms that the instrument is strong and the results are extremely similar to the ones reported earlier.

We also checked whether our results hold when we use municipal variation instead of departmental desegregation in Table 2 of Appendix C. Our results, are in general, robust to the lower

geographical aggregation. We still find no impacts of the amnesty on total crime reports and also increments on sex crimes but reduction on domestic violence. However, the municipal analysis also reveals reduction in threat reports. Particularly, we observe that when the share of PEP migrants to population increases by 1%, threat reports decreased by 0.074%. Considering that this last result is not robust across our robustness tests and departmental aggregation we are not confident of its validity.

V Conclusions

In this paper we examine the impacts of the regularization of approximately half a million crises-driven migrants on crime rates. To our knowledge, our paper is the first to examine the impacts of a large, sudden, and generous amnesty in a developing country with a large informal sector and high crime rates. This distinction is of importance considering that irregular migrants may already be part of the informal sector, and as such, may have less incentives to formalize their situation.

We are not able to distinguish any significant effects of the regularization on total crime reports, but we document that it caused a reduction on reports of domestic crime and an increment of sexual crime reports. Evidence from qualitative interviews with Venezuelan migrants suggests that both of these effects are positive and emerge as the PEP empowered individuals to report abuses to their basic human rights (without fearing deportations) and reducing stress levels that often lead to domestic abuse within households. Future work in this research agenda should focus on documenting the impacts of this amnesty on mental health.

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Figure (I) Registration Days for PEP
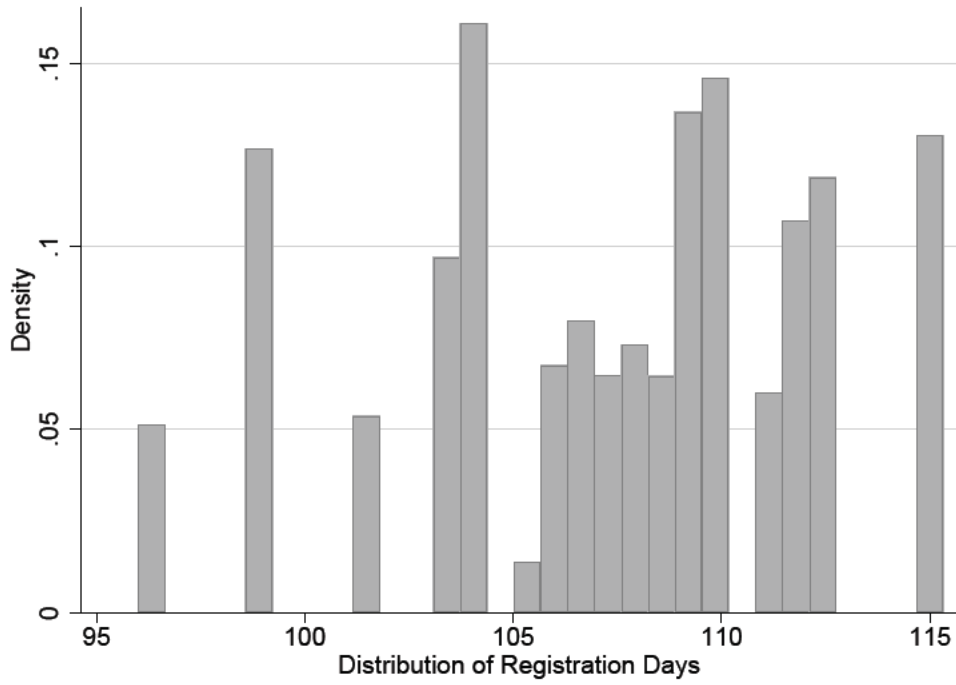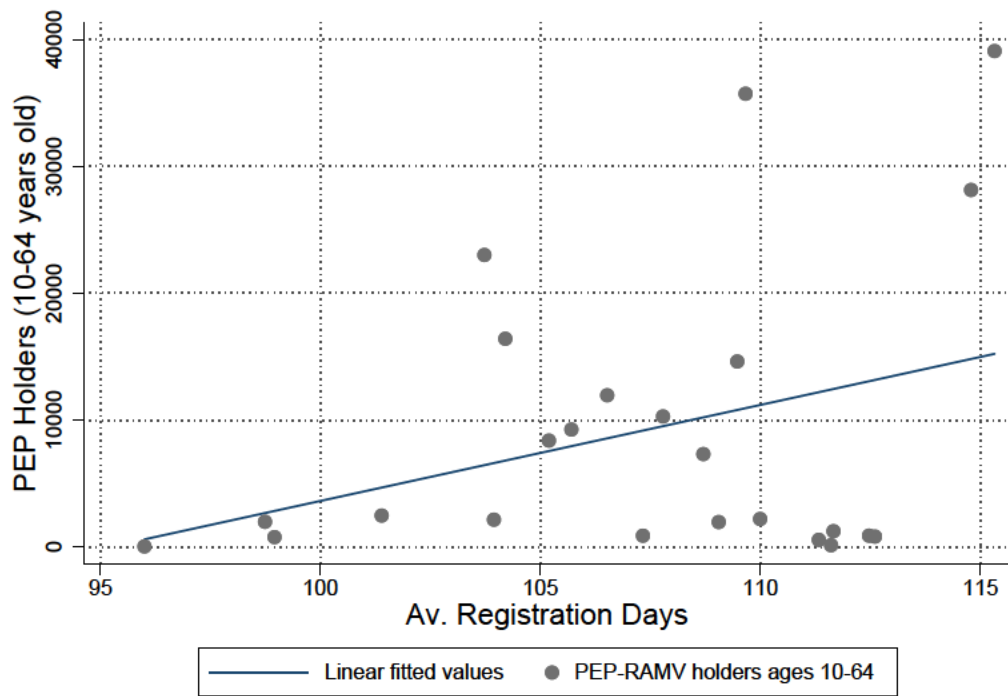

Panel A: Distribution of Registration Days for PEP
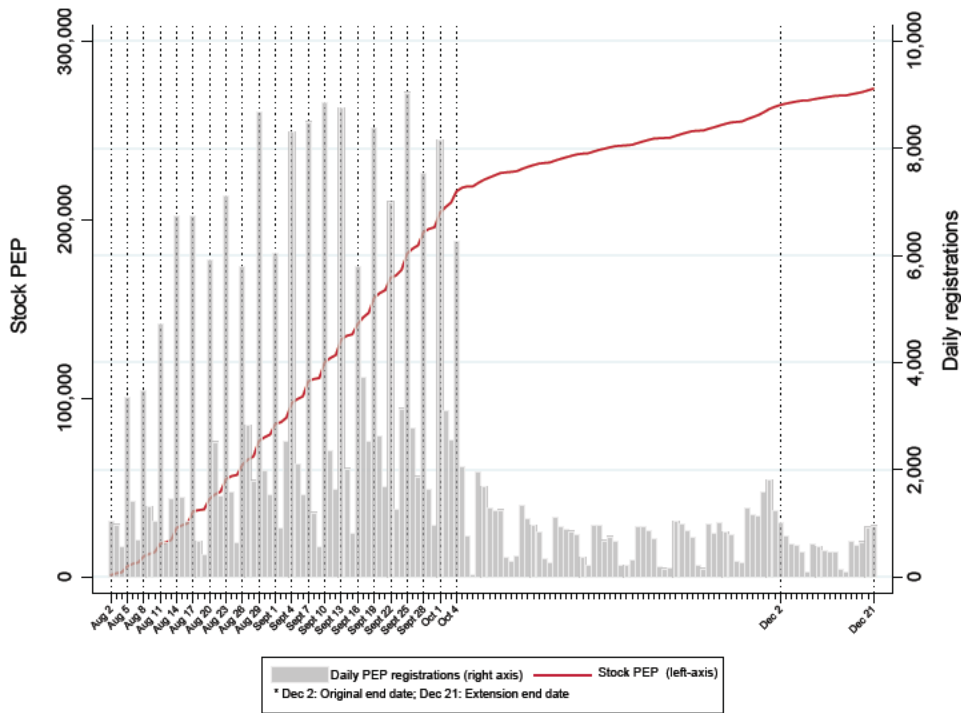
Panel B: PEP registrations:Daily Flow and Total Stock

Figure (II) Av. Registration Days and PEP Holders ages 10-64

Note: Correlation 0.334***

Table (I) Impacts of Migrant Regularization on Crime Reports

Var. Ln (IHST+)	Homicides (1)	Threat (2)	Domestic Violence (3)	Theft (4)	Sex Crime (5)	Total (6)
Panel A. OLS						
Pep Holders x I(Post Aug. 2018)	0.005	-0.009	-0.033***	0.008	0.019***	-0.000
	(0.009)	(0.010)	(0.009)	(0.005)	(0.005)	(0.003)
Adj.R-squared	0.624	0.611	0.726	0.885	0.626	0.861
Panel B. Reduced Form						
Reg. Days x I(Post Aug. 2018)	0.000	0.000	-0.001**	0.000	0.002***	0.000
	(0.000)	(0.000)	(0.001)	(0.000)	(0.000)	(0.000)
Adj.R-squared	0.625	0.611	0.723	0.885	0.628	0.861
Panel C. 2SLS (Second-Stage)						
Pep Holders x I(Post Aug. 2018)	0.006	0.000	-0.024**	0.006	0.031***	0.001
	(0.009)	(0.010)	(0.009)	(0.005)	(0.008)	(0.004)
Adj.R-squared	0.053	0.118	0.262	0.345	0.093	0.410
Panel D. (First-Stage)						
Reg. Days x I(Post Aug. 2018)	0.051***	0.051***	0.051***	0.051***	0.051***	0.051***
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
F-Test	442.13	442.13	442.13	442.13	442.13	442.13
Observations (All Panels)	1,408	1,408	1,408	1,408	1,408	1,408
Controls (all panels)						
Dep. FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Month FE	Yes	Yes	Yes	Yes	Yes	Yes
Additional Controls	Yes	Yes	Yes	Yes	Yes	Yes

Notes: All dependent variables were transformed using the inverse hyperbolic sine transformation (see Burbidge et al., 1988 and MacKinnon and Magee, 1990 for details). The coefficients can be interpreted as a log transformation on the dependent variable. Additional controls include full interactions of year dummies and i) Gini index in 2005, ii)% of households in Colombia with at least one unsatisfied basic need in 2005, iii) % of Households in Colombia with at least one informal worker in 2005, iv) homicide rates in 2014, v) terrorist attacked in 1995, vi) night light density in 2013, vii) number of financial institution in 1995, viii) number of tax collection offices in 1995, ix) agriculture, industry, and services GDP in 2009, x) central government transfers in 2009, xi) transfers in education in 2009, xii) transfers in health in 2009, xiii) total municipal income in 2016, xiv) total municipal expenditures in 2016, and xv) total exports to Venezuela in 2016. Standard errors clustered by department are in parentheses. *** significant at the 1%, ** significant at the 5%, * significant at the 10%

Table (II)   Impacts of Migrant Regularization on Crime Reports by Females

			Female			
Var. Ln (IHST+)	Homicides	Threat	Domestic Violence	Theft	Sex Crime	Total Crime
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A. OLS						
Reg. Days x I(Post Aug. 2018)	0.006	-0.012	-0.034***	0.004	0.020***	-0.006*
	(0.005)	(0.008)	(0.009)	(0.007)	(0.006)	(0.004)
Adj.R-squared	0.198	0.579	0.710	0.815	0.604	0.834
Panel B. Reduced Form						
Pep Holders x I(Post Aug. 2018)	0.000	-0.000	-0.001**	-0.000	0.001***	-0.000
	(0.000)	(0.000)	(0.001)	(0.000)	(0.000)	(0.000)
Adj.R-squared	0.198	0.578	0.707	0.815	0.606	0.834
PanelC. 2SLS (Second-Stage)						
Pep Holders x I(Post Aug. 2018)	0.007	-0.004	-0.027**	-0.000	0.029***	-0.005
	(0.005)	(0.009)	(0.010)	(0.008)	(0.008)	(0.003)
Adj.R-squared	0.036	0.104	0.275	0.220	0.076	0.365
Panel D. (First-Stage)						
Reg. Days x I(Post Aug. 2018)	0.051***	0.051***	0.051***	0.051***	0.051***	0.051***
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
F-Test	442.13	442.13	442.13	442.13	442.13	442.13
Observations (All Panels)	1,408	1,408	1,408	1,408	1,408	1,408
Controls (all panels)						
Dep. FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Month FE	Yes	Yes	Yes	Yes	Yes	Yes
Addtitional Controls	Yes	Yes	Yes	Yes	Yes	Yes

Notes: All dependent variables were transformed using the inverse hyperbolic sine transformation (see Burbidge et al., 1988 and MacKinnon and Magee, 1990 for details). The coefficients can be interpreted as a log transformation on the dependent variable. Additional controls include full interactions of year dummies and i) Gini index in 2005, ii)% of households in Colombia with at least one informal worker in 2005, iv) homicide rates in 2014, v) terrorist attacked in 1995, vi) night light density in 2013, vii) number of tax collection offices in 1995, ix) agriculture, industry, and services GDP in 2009, x) central government transfers in 2009, xi) transfers in education in 2009, xii) transfers in health in 2009, xiii) total municipal income in 2016, xiv) total municipal expenditures in 2016, and xv) total exports to Venezuela in 2016. Standard errors clustered by department are in parentheses. *** significant at the 1%, ** significant at the 5%, * significant at the 10%

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Table (III) Impacts of Migrant Regularization on Crime Reports by Males

	Male					
Var. Ln (IHST+)	Homicides	Threat	Domestic Violence	Theft	Sex Crime	Total Crime
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A. OLS						
Reg. Days x I(Post Aug. 2018)	0.003	-0.007	-0.025*	0.008	0.008	-0.001
	(0.008)	(0.014)	(0.013)	(0.005)	(0.005)	(0.005)
Adj.R-squared	0.628	0.566	0.594	0.845	0.266	0.832
Panel B. Reduced Form						
Pep Holders x I(Post Aug. 2018)	0.000	0.000	-0.001	0.000	0.001**	0.000
	(0.000)	(0.001)	(0.001)	(0.000)	(0.000)	(0.000)
Adj.R-squared	0.628	0.566	0.592	0.845	0.268	0.832
PanelC. 2SLS (Second-Stage)						
Pep Holders x I(Post Aug. 2018)	0.003	0.002	-0.012	0.006	0.017**	0.001
	(0.008)	(0.014)	(0.010)	(0.005)	(0.007)	(0.005)
Adj.R-squared	0.052	0.111	0.130	0.277	0.053	0.339
Panel D. (First-Stage)						
Reg. Days x I(Post Aug. 2018)	0.051***	0.051***	0.051***	0.051***	0.051***	0.051***
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
F-Test	442.13	442.13	442.13	442.13	442.13	442.13
Observations (All Panels)	1,408	1,408	1,408	1,408	1,408	1,408
Controls (all panels)						
Dep. FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Month FE	Yes	Yes	Yes	Yes	Yes	Yes
Addtitional Controls	Yes	Yes	Yes	Yes	Yes	Yes

Notes: All dependent variables were transformed using the inverse hyperbolic sine transformation (see Burbidge et al., 1988 and MacKinnon and Magee, 1990 for details). The coefficients can be interpreted as a log transformation on the dependent variable. Additional controls include full interactions of year dummies and i) Gini index in 2005, ii)% of households in Colombia with at least one unsatisfied basic need in 2005, iii) % of Households in Colombia with at least one informal worker in 2005, iv) homicide rates in 2014, v) terrorist attacked in 1995, vi) night light density in 2013, vii) number of financial institution in 1995, viii) number of tax collection offices in 1995, ix) agriculture, industry, and services GDP in 2009, x) central government transfers in 2009, xi) transfers in education in 2009, xii) transfers in health in 2009, xiii) total municipal income in 2016, xiv) total municipal expenditures in 2016, and xv) total exports to Venezuela in 2016. Standard errors clustered by department are in parentheses. *** significant at the 1%, ** significant at the 5%, * significant at the 10%

Appendix A: Descriptive Statistics

Table (A.1) Crime Outcomes Definition

| Type of Crime	Components
Threat or Assault	Threat and assault
Theft	Home burglary, car theft, motorcycle theft, robbery commercial, robbery bank, personal theft
Domestic Violence	Domestic violence
Homicides	Homicides
Sex Crime	Sex Crime
Total Crime	Threat or assault, theft, domestic violence, homicides, sex crime and total crime

Notes: * We exclude terrorism because it is not classified by nationality. We also exclude piracy because there are few events reported.

Table (A.2)   Descriptive Statistics

Variable	Year	Obs.	Average	St. Deviation	Min	Max
Panel A: Crimes Outcomes (rates per 100,000 individuals)						
Homicides	2017-2020	1,408	2.02	1.30	0.00	10.60
Threat	2017-2020	1,408	8.06	4.32	0.00	27.65
Domestic Violence	2017-2020	1,408	12.40	6.66	0.00	41.59
Theft	2017-2020	1,408	45.02	24.79	4.62	177.37
Sex Crime	2017-2020	1,408	5.77	2.86	0.00	22.66
Total Crime	2017-2020	1,408	74.16	30.99	13.83	226.51
Panel A. Migration						
RAMV (Indv.)	2018	19,494	518.48	3001.79	0.00	43,503
RAMV (% Pop. × 100)	2018	19,494	0.50	1.45	0.00	17.46
PEP (Indv.)	2018	19,494	335.04	2140.68	0.00	40,811
PEP (% Pop. × 100)	2018	19,494	0.35	1.13	0.00	21.85
PEP × I[Post August 2018]	2018	19,494	0.09	0.58	0.00	21.85
PEP × (% Pop that can be legalized)	2018	19,494	0.08	0.53	0.00	21.85
Population Born in Venezuela 1993	1993	19,494	54.81	331.73	0.00	6,851
Population Born Abroad 1993	1993	19,494	135.94	1,115.48	1.00	26,323
Predicted Inflows 1993 (% Pop × 100)	1993	19,494	45.11	38.84	0.00	100
Panel B. Control Variables						
N. of Terrorist Attacks	1995	1,048	0.03	0.18	0.00	2.00
Number of Financial Institutions	1995	1,046	1.75	8.92	0.00	252.00
Number of Tax Collection Offices	1995	1,046	36.05	182.37	0.00	5176.00
Homicide Rate (Per 100,000 Indv.)	2009	1,048	29.95	33.98	0.00	241.40
Total Mun. Income (Thousands)	2009	1,101	30,749.27	266,469	0.00	8,131,355
Mun. Public Expenditures (Thousands)	2009	1,101	31,209.47	254,052	0.00	7,553,097
Total Central Gov. Transfers (Millions)	2009	1,122	12,700	71,500	10.10	2,050,000
GDP Share in Agriculture (Thousands)	2009	1,097	26.38	33.48	0.01	391.20
GDP Share in Services (Thousands)	2009	1,097	196.98	2,279	0.14	72,700
GDP Share in Industry (Thousands)	2009	1,097	113.50	799.19	0.21	23,000
GINI	2005	1,043	0.45	0.03	0.39	0.57
Unsatisfied Basic Needs (UBN,% Households)	2005	1,114	44.94	20.95	5.36	100
Informal Labor* (% Household)	2005	1,113	94.89	5.71	62.30	100
Night Light Density	2009	1,123	3.83	7.25	0.00	62.37
PEP1 (August 2017- October 2017)	2017	1,196	57.59	848.53	0.00	27,703
PEP2 (February 2018- June 2018)	2018	1,196	94.16	1,436	0.00	47,389

Notes: *Informal Labor is a dummy variable equal to one if less than 100 % of the economically active population within a household does not contribute to the pension system.

Figure (A.1) Geographic Distribution of Crime (Mean Rates per 100,000 individuals)
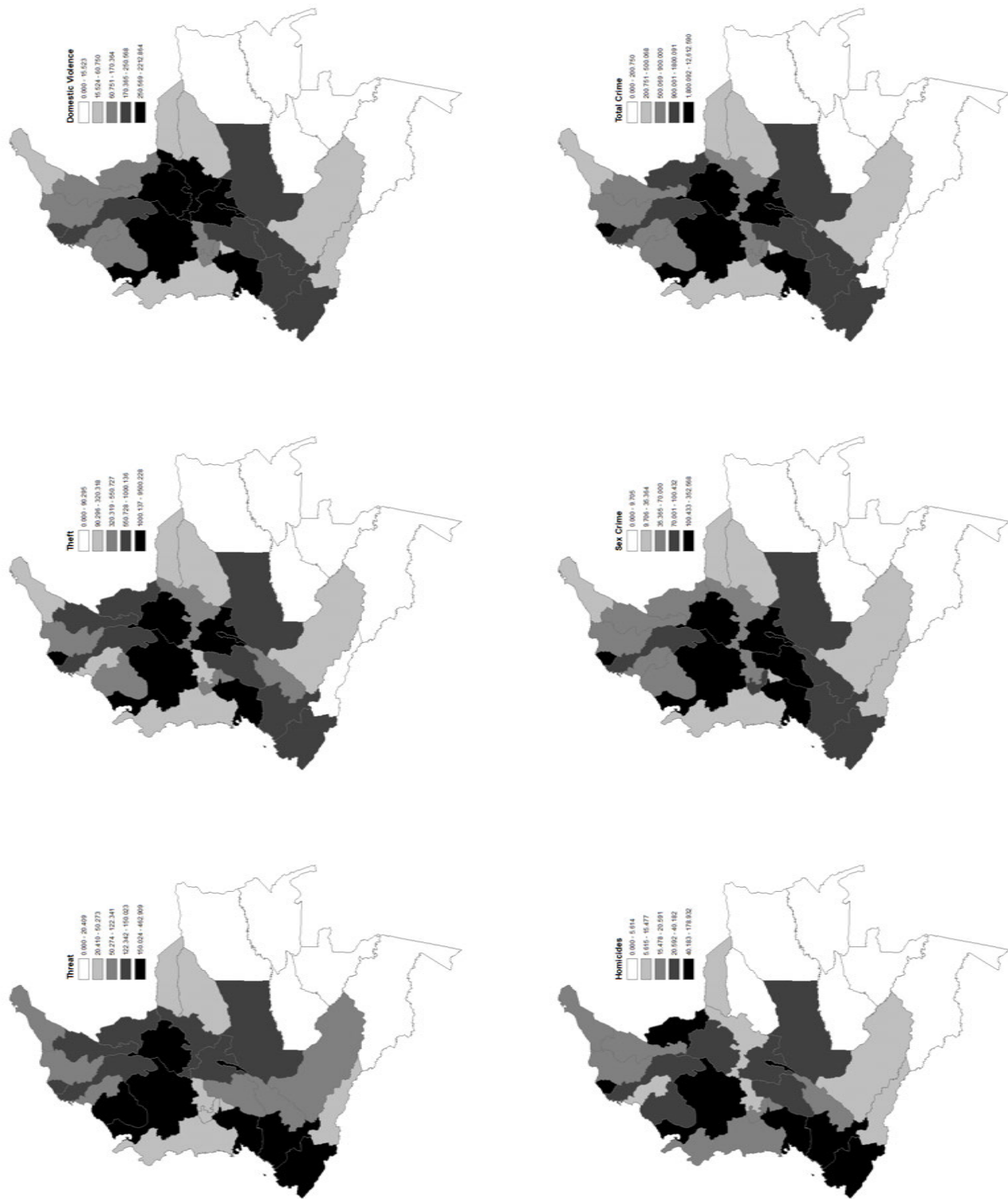
Appendix B: PEP Registrations

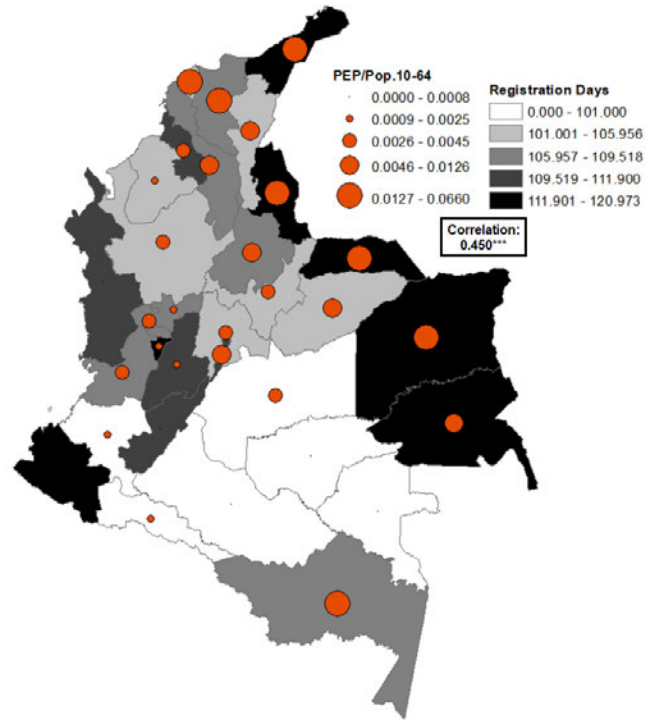**Figure (B.1)**   Average Registration Days and PEP Registrations

Table (B.1)   Descriptive Statistics - Registration Windows

| Registration Number | | Registration Date | | Pop. Share by Registration Window |
Since	Until	Since	Until	
1	14,752	2-Aug-18	21-Dec-18	0.04652
14,753	30,213	5-Aug-18	21-Dec-18	0.04885
30,214	4,002,617	8-Aug-18	21-Dec-18	0.04714
4,002,618	4,014,997	11-Aug-18	21-Dec-18	0.04648
4,014,998	4,027,640	14-Aug-18	21-Dec-18	0.04634
4,027,641	4,040,663	17-Aug-18	21-Dec-18	0.04667
4,040,664	4,053,186	20-Aug-18	21-Dec-18	0.04630
4,053,187	4,065,677	23-Aug-18	21-Dec-18	0.04619
4,065,678	4,078,492	26-Aug-18	21-Dec-18	0.04620
4,078,493	4,091,505	29-Aug-18	21-Dec-18	0.04613
4,091,506	4,104,531	1-Sep-18	21-Dec-18	0.04616
4,104,532	4,117,421	4-Sep-18	21-Dec-18	0.04631
4,117,422	4,130,322	7-Sep-18	21-Dec-18	0.04610
4,130,323	4,142,976	10-Sep-18	21-Dec-18	0.04565
4,142,977	4,156,009	13-Sep-18	21-Dec-18	0.04572
4,156,010	4,168,922	16-Sep-18	21-Dec-18	0.04575
4,168,923	4,182,673	19-Sep-18	21-Dec-18	0.04576
4,182,674	4,196,951	22-Sep-18	21-Dec-18	0.04578
4,196,952	4,209,778	25-Sep-18	21-Dec-18	0.04576
4,209,779	4,222,027	28-Sep-18	21-Dec-18	0.04575
4,222,028	4,234,070	1-Oct-18	21-Dec-18	0.04582
4,234,071	4,242,447	4-Oct-18	21-Dec-18	0.02861

Table (B.2)   Av. Registration Days - Department Controls

Dep. Variable	Av. Registration Days by Dep.
Population in 2017	0.000
	(0.000)
Av. Wage 2017	-0.062
	(0.084)
Av. Hours Worked 2017	-2.273
	(4.785)
Av. Unemployment 2017	-252.819
	(510.323)
Informal labor (% HH)	1.492
	(9.227)
Index for unsatisfied basic needs 2005	-0.046
	(0.819)
Subsidized health care system	-0.000
	(0.000)
GDP per capita 2017	0.000
	(0.000)
Av. Night light density 2013	2.385
	(3.414)
Terrorist events 2017	0.760
	(2.211)
Homicide rate 2017	-0.007
	(0.019)
Hectares coca 2016	0.001
	(0.001)
N. of financial institutions	0.556
	(0.739)
N. of tax collection offices	-0.392
	(0.767)
N. of hospitals	-0.480
	(1.019)
N. of health centers	-0.422
	(0.773)
N. education establishments	0.006
	(0.059)
Land fertility index	-1.145
	(1.803)
Height (MASL)	-0.018
	(0.039)
Venezuelan early settlements in 2005	0.004
	(0.007)
Foreigners 2018	-0.000
	(0.001)
Constant	175.587
	(975.915)
R-squared	0.848
Observations	23

Table (B.3)   Av. Registration Days - Municipal Controls

Dep. Variable	Av. Registration Days by Mun.
Population in 2017	-0.000
	(0.000)
Informal labor (% HH)	0.136
	(0.120)
Index for unsatisfied basic needs 2005	-0.043
	(0.031)
Subsidized health care System	-0.000
	(0.000)
GDP per capita 2017	-0.000
	(0.000)
Terrorist events 2017	-0.592
	(0.692)
Homicide rate 2017	0.012
	(0.018)
Hectares coca 2016	0.000
	(0.000)
Av. Night light density 2013	0.016
	(0.076)
N. of financial institutions	-0.128
	(0.425)
N. of tax collection offices	-2.680***
	(0.819)
N. of hospitals	2.172***
	(0.759)
N. of health centers	0.233
	(0.576)
N. education establishments	-0.018
	(0.045)
Land fertility index	-0.043
	(0.029)
Height (MASL)	-0.001
	(0.000)
Tot. Early Ven.settlements in 2005	0.001
	(0.005)
Foreigners 2018	0.000
	(0.000)
Constant	95.386***
	(11.188)
R-squared	0.033
Observations	808

Appendix C: Robustness Test

Table (B.1) Impacts of Venezuelans settlements in 1993 on Crime Reports

Var. Ln (IHST+)	Homicides	Threat	Domestic Violence	Theft	Sex Crime	Total Crime
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A. OLS						
Pep Holders x I(Post Aug. 2018)	0.005	-0.009	-0.033***	0.008	0.019***	-0.000
	(0.009)	(0.010)	(0.009)	(0.005)	(0.005)	(0.003)
Adj.R-squared	0.624	0.611	0.726	0.885	0.626	0.861
Panel B. Reduced Form						
Venezuelans 1993 x I(Post Aug. 2018)	0.0003	0.0001	-0.0028**	-0.0001	0.0015**	-0.0005
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.000)
Adj.R-squared	0.626	0.674	0.757	0.893	0.647	0.876
PanelC. 2SLS (Second-Stage)						
Pep Holders x I(Post Aug. 2018)	0.004	0.002	-0.035**	-0.001	0.018**	-0.006
	(0.009)	(0.011)	(0.013)	(0.006)	(0.007)	(0.005)
Adj.R-squared	0.061	0.165	0.292	0.363	0.109	0.443
Panel D. (First-Stage)						
Venezuelans 1993 x I(Post Aug. 2018)	0.080***	0.080***	0.080***	0.080***	0.080***	0.080***
	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)
F-Test	163.31	163.31	163.31	163.31	163.31	163.31
Observations (All Panels)	1,364	1,364	1,364	1,364	1,364	1,364
Controls (all panels)						
Dep. FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Month FE	Yes	Yes	Yes	Yes	Yes	Yes
Addtitional Controls	Yes	Yes	Yes	Yes	Yes	Yes

Table (B.2)   Impacts of Amnesty on Crime Reports - Municipality Geographic Variation

Var. Ln (IHST+)	Homicides	Threat	Domestic Violence	Theft	Sex Crime	Total Crime
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A. OLS						
Reg. Days x I(Post Aug. 2018)	-0.001	-0.022**	-0.023**	0.024***	0.038***	0.006
	(0.006)	(0.009)	(0.010)	(0.008)	(0.008)	(0.004)
Adj.R-squared	0.317	0.282	0.316	0.473	0.189	0.582
Panel B. Reduced Form						
Pep Holders x I(Post Aug. 2018)	-0.000	-0.002***	-0.001**	0.000	0.002***	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Adj.R-squared	0.317	0.283	0.316	0.473	0.190	0.581
PanelC. 2SLS (Second-Stage)						
Pep Holders x I(Post Aug. 2018)	-0.015	-0.074***	-0.034**	0.008	0.071***	-0.001
	(0.009)	(0.014)	(0.015)	(0.012)	(0.012)	(0.005)
Adj.R-squared	0.001	0.001	0.004	0.003	0.002	0.014
Panel D. (First-Stage)						
Reg. Days x I(Post Aug. 2018)	0.027***	0.027***	0.027***	0.027***	0.027***	0.027***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
F-Test	1513.71	1513.71	1513.71	1513.71	1513.71	1513.71
Observations (All Panels)	30,945	30,945	30,945	30,945	30,945	30,945
Controls (all panels)						
Mun. FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Month FE	Yes	Yes	Yes	Yes	Yes	Yes
Additional Controls	Yes	Yes	Yes	Yes	Yes	Yes