

Full Title: Immigration Shocks and Unfounded Concerns about Crime: Evidence from Haitian Migration to Chile

Short Title: Immigration Shocks and Unfounded Concerns about Crime

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Abstract

A large rise in migration in certain areas of the world since 2010 has triggered frequent unsubstantiated claims in politics, the media, and everyday life of a causal connection between migration and crime. We examine whether rapid and large demographic changes (i.e., immigration shocks) affect people's level of concern about crime. We use administrative and survey data from Chile, which has recently experienced a historic influx of migrants. Using a dynamic difference-in-differences design, we provide evidence suggesting that a rapid shift in Haitian migration at the local level led to an increase in concerns about crime. However, we find no evidence that immigration shocks have affected actual crime rates. Given that prior research has documented racial discrimination against Haitians in Chile, our findings suggest that prejudice and stereotypes toward non-white newcomers may trigger misconceptions about crime.

Keywords: Immigration, Crime, Race, Latin America, Chile.

Additional Statements: Authors are listed in alphabetical order. Replication files are available in the JOP Data Archive on Dataverse (<https://dataverse.harvard.edu/dataverse/jop>). The empirical analysis has been successfully replicated by the JOP replication analyst. Supplementary material for this article is available in the appendix in the online edition. All errors are our own.

Introduction

Recent migration patterns have triggered important demographic transformations around the globe. Economic, political, and humanitarian crises in Syria, Venezuela, and Haiti, for instance, have generated massive flows of people moving to safer or more prosperous places, which has led politicians in many countries to portray immigrants as a threat. For example, they often make (unsupported) claims about a causal connection between immigration and crime (explored in more detail in Appendix A). It is therefore important to study whether ordinary citizens associate immigration with crime – and, if so, whether actual crime data support these perceptions – because wrongfully criminalizing immigration can prevent foreigners from integrating and normalize xenophobia and racism.

We exploit rich administrative data that includes all visas requested in Chile between 2014 and 2017, when the country experienced a historic influx of migrants, as well as public opinion surveys and local crime rates. This South American nation had relatively few immigrants until a large wave of Latin American and Caribbean migrants – mainly from Venezuela and Haiti – arrived in the 2010s drawn by Chile's relative economic and political stability (see Appendix B for more details about immigration to Chile).¹

Using a dynamic difference-in-differences (DiD) design, we provide evidence suggesting that an immigration shock – a sudden increase in the number of visas requested – increased citizens' concerns about crime. However, this effect is only linked to the arrival of Haitian

¹ Understanding the political consequences of migration has become a key issue in Latin America, given the large migratory waves experienced in this region since 2010 (Vega-Mendez and Visconti 2021, Holland, Peters, and Zhou 2023).

migrants, not those from other countries of origin. Additionally, we demonstrate that this recent immigration shock has not affected actual crime rates. These findings suggest that misconceptions may be triggered by discrimination due to racial differences between new arrivals and the receiving population.

Immigration and Crime in Chile

Chile is an excellent setting in which to explore how an immigration shock affects concerns about crime because it has experienced the most drastic immigration-driven demographic change in Latin America in recent years (Doña-Reveco 2018). More than 90% of the new migrants arriving in Chile come from other Latin American and Caribbean countries (Bellolio and Valdes 2020), and people from elsewhere in the region could visit Chile without a tourist visa until 2018. After arriving as visitors, they could easily request a (non-tourist) visa by presenting an employment contract or proving a personal link to a Chilean, a pregnancy, or a medical treatment. The most common route to acquiring a (non-tourist) visa was to obtain an employment contract (Stefoni 2011) by securing any type of job, such as working in a large agricultural company or as a gardener, contractor, or nanny for an individual taxpayer (Fernandez 2017). Therefore, regular migration to Chile from other Latin American countries was a feasible path until the 2018 immigration reform, which makes the number of visa applications a good proxy for actual migration (see Appendix C).

Data

We use detailed administrative data to measure immigration shocks. We use records from 2014 to 2017 documenting all the (non-tourist) visas requested, which include each applicant's municipality of residence and nationality. This allows us to compute immigration shocks at the local (municipality) level for different countries of origin. Using this data, we identify

municipalities that experienced a drastic demographic change. Our two outcomes of interest are *concerns about crime* and *actual crime rates*.

To measure the first outcome (concerns about crime), we use data from ten nationally representative surveys conducted by the Centro de Estudios Públicos between July 2014 and September 2017. On average, these surveys were implemented every four months. We construct this outcome based on answers to the following question: “Which are the three problems the government should dedicate the greatest effort to solving?” Respondents chose from a list of issues that was the same in each survey. We generate a binary indicator for concerns about crime (1 when mentioned crime as one of the top three issues, and 0 otherwise).

To measure the second outcome (crime rates), we rely on key property crimes such as thefts and robberies since these are Chile's most common and politically relevant offenses (Alberti et al. 2022). Both outcomes are expressed in standard deviation units for ease of interpretation. Appendix D describes the construction of both outcomes.

Design

To draw causal inferences about the political impact of immigration shocks, we use a dynamic (or event-study) DiD design (Callaway and Sant'anna 2021). In a dynamic DiD, the results are aggregated by the *length* of exposure rather than the *time* of exposure, which is particularly useful when there are multiple periods and when there is variation in the occurrence of the treatment. In our robustness checks, we use a generalized DiD (i.e., two-way fixed effect), matching methods for causal inference with time-series cross-sectional data, and a generalized synthetic method control. These analyses are reported in Appendices E, F, and G; they confirm the study's main conclusions.

Since the dynamic DiD approach requires using the same unit of analysis over time, we structured the data at the municipality level by computing the average concern about crime for each municipality-survey wave. As a robustness check, in Appendix H, we use advances in multilevel regression with poststratification to construct the outcome. In Appendix I, we generate a new binary indicator for concerns about crime, where 1 corresponds to respondents who mentioned crime as the top one issue (rather than one of the top three issues). In Appendix E, we use survey respondents as the unit of analysis rather than municipality-survey waves. Importantly, the study's main findings are not conditional on the unit of analysis or the methods used to measure concerns about crime at the municipality level.

An essential challenge when studying immigration within a region or country is that people living in historically migrant-receiving areas grow accustomed to demographic changes and no longer react to the arrival of newcomers. Previous research has documented the problems associated with using immigration rates to capture perceived migration (Newman and Velez 2014). To address this concern, we identify municipalities that experienced a rapid increase in the number of (non-tourist) visa requests, which we refer to as an *immigration shock*. By focusing on communities that experienced a substantive demographic change in a short period, we mitigate concerns that people in certain areas became habituated to immigration. Since administrative data includes the date on which the visa was requested, we can calculate the total number of visa applications before the survey implementation to compute the first outcome: concerns about crime. We use the number of visas requested in the two years prior to the surveys to calculate the percentage-point change between each year (i.e., changes in the number of visa applications from one year to the next). We define *exposed* municipalities as those in which the change in the number

of visa requests is equal to or greater than one standard deviation above the mean.² In *control* municipalities, the demographic changes were less than one standard deviation above the mean. Using standard deviations is a common strategy when studying the impact of different types of shocks (e.g., Carreras and Visconti 2022). As a robustness check, in Appendix E, we use a continuous rather than binary version of exposure to migration, and the conclusions remain the same. In Appendix J, we provide more details about the treatment data. Appendix K includes maps and descriptive statistics about exposure to immigration in Chile.

We focus on two immigration shocks: 1) a sharp increase in the number of applications for all visas (regardless of the country of origin) and 2) a sharp increase in requests for visas from people from Haiti. Between 2016 and 2017, around 160,000 Haitians entered Chile in one of the largest increases in migration in the country's history (Bellolio and Valdes 2020) – close to 1% of the population, according to the 2017 Census. While 95% of Haitians are Black, Chilean residents of African descent represented a very small share of the population before 2015. As a result, Haitians experienced a different dynamic of assimilation than that of historic influxes of European or South American migrants in Chile (Rojas et al. 2015). In Appendix L, we used immigration shocks from other relevant countries besides Haiti and found no evidence of an effect.

In summary, the main design for this study has the following structure: the units of analysis are municipality-survey waves, and exposed municipalities are those in which immigration increased by more than one standard deviation in the 12 months before the survey. Control units are municipalities never exposed to an immigration shock. We examine the effects of two immigration indicators: a sudden increase in visas from Haitians and a sudden increase in all visas

² The treatment follows a staggered structure (i.e., exposed municipality cannot leave this group).

and. Finally, we study the impact of these two treatments on two outcomes: average concerns about crime, and crime rates three months after the survey at the municipality-survey wave level.

Results

Figure 1 illustrates the results regarding how immigration shocks affect concerns about crime, disaggregated by the length of exposure: $-I$ refers to the period before the first exposure, which serves as evidence of the parallel-trends assumption needed for the DiD (never treated vs. eventually treated); 0 represents the average effect of the first exposure to an immigration shock or an instantaneous treatment effect (never treated vs. first treated); and I corresponds to the first period after the initial exposure to an immigration shock (never treated vs. second treated). We also include in Figure 1 the *overall treatment effect*, which is the average of the post-treatment effects across all lengths of exposure to an immigration shock. Appendix M presents the full results. We correct the p-values of the overall treatment effects for multiple comparisons. We provide details in Appendix N. The number of pre-and post-treatment periods is defined by the structure of the treatment variable, which is why they differ when comparing *visas from Haiti* and *all the visas*.

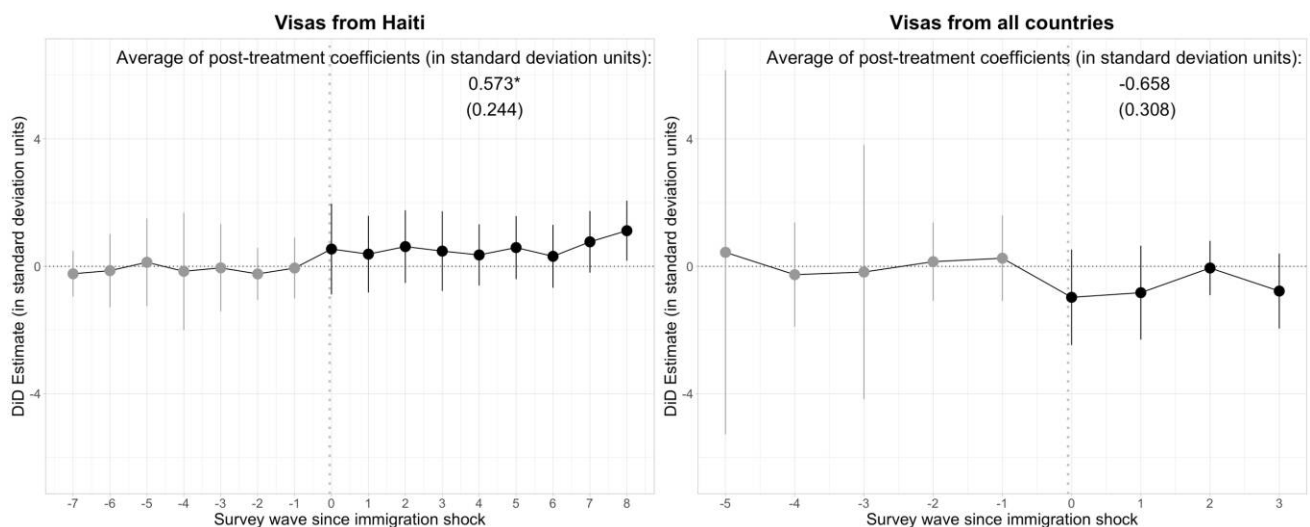


Figure 1. Average effect of immigration shock on *concerns about crime* by length of exposure. Results in grey are pre-exposure and in black are post-exposure. Lines denote 95% confidence intervals. The overall

treatment effect is reported using coefficients, standard errors in parentheses and (*) for Bonferroni-adjusted p-values lower than 0.05. N =1,358.

When using *only visas from Haiti* (Figure 1, first panel), the average of the post-treatment coefficients indicates that an immigration shock has a positive and statistically significant effect on concerns about crime. A demographic change explained by the arrival of Haitians significantly boosts concerns about crime by 0.573 standard deviation units (corrected p-value: 0.038). When disaggregating the results by length of exposure, Figure 1 (first panel) displays an increase after the first exposure, which becomes a statistically significant effect over time. There is a significant increase of 1.118 standard deviation units in concerns about crime in eight surveys after the first exposure to the Haitian immigration shock (95% confidence interval: [0.173, 2.061]). In Appendix E, we include covariates in the analysis, and the results become significant after seven surveys (95% confidence interval: [0.265, 2.154]). Seven surveys from the first exposure represent 2 years from the first time people were exposed to the immigration shock.

One possible interpretation of the disaggregated results is the existence of a cumulative effect, in which prejudices emerge gradually over time. An alternative interpretation is that concerns appeared quickly, but when separating the analysis into multiple small pieces, more power is needed to find a statistically significant effect at the time of the first exposure.

Regarding substantive effects, even though the effect size for the average of post-treatment coefficients suggests a medium-sized impact (0.573 standard deviation units), we acknowledge that the confidence intervals are wide. Yet, when complementing these results with previous surveys and qualitative evidence about the mistreatment of Haitians in Chile (see Appendix P) and with consistent results across different designs (see Appendix O), we posit that there is evidence suggesting an increase in concerns about crime after an immigration shock of Haitians.

When using *all the visas* (Figure 1, second panel), the average of the post-treatment coefficients suggests that immigration shocks decreased concerns about crime. However, these results do not provide enough evidence to reject the null hypothesis of no effect. When disaggregating the effects by length of exposure, there is no evidence of an effect on concerns about crime. These null findings are confirmed across all the robustness checks reported in the appendices.

Additionally, the pre-exposure results for both *visas from Haiti* and *all the visas* provide evidence to support the parallel-trends assumption since there is no change in trajectories between the control and the eventually exposed group.

Figure 2 reports the effects on crime rates three months after an immigration shock at the municipality-survey wave level. We use three months to avoid an overlap between surveys. The results provide evidence to hold the parallel-trends assumption but no evidence that migratory shocks increase crime.

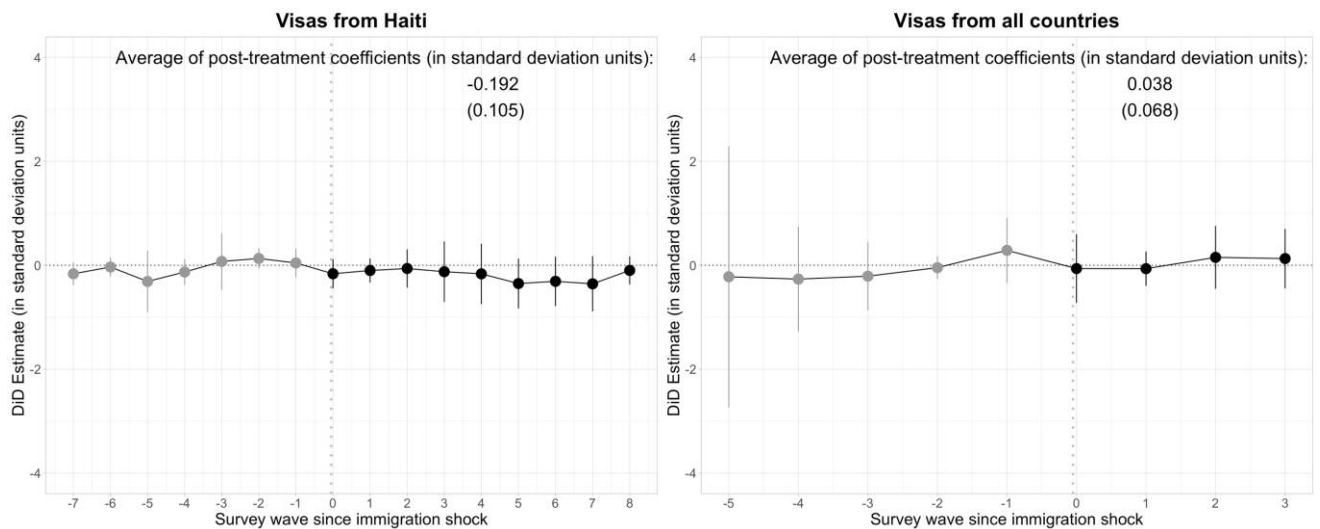


Figure 2. Average effect of immigration shock on *crime rates* by length of exposure. Results in grey are pre-exposure and in black are post-exposure. Lines denote 95% confidence intervals. Overall treatment effect reported using coefficients, standard errors in parentheses and (*) for Bonferroni-adjusted p-value lower than 0.05. N = 1,358.

Discussion and Conclusion

Do immigration shocks increase perceptions of criminality? Our results illustrate that this only occurred with Haitians, although the *actual* crime rate remains unchanged. The large and sudden influx of Haitian migrants could have enhanced the salience of Chileans' sense of identity, which has been regarded as Eurocentric and conservative Catholic (Larraín 2001). Evidence from prior studies indicates that Haitians in Chile feel discriminated against, especially when looking for jobs, on public transportation, and in public spaces (CENEM-UTalca 2018) (see Appendix P for more details about Haitians' experiences in Chile). They are also victims of racism and recognize skin color as a barrier to integration into Chilean society (Rojas et al. 2015) (see more in Appendix Q).

Our main goal is to provide novel evidence regarding (unfounded) concerns about crime after immigration shocks. In the case of Chile, although immigration shocks caused by an influx of migrants from Haiti have been shown to increase Chileans' concerns about crime, demographic changes have not affected actual crime rates in the country. Based on this discrepancy, we suggest that discrimination based on racial differences could lead to the misperception of a link between crime and immigration. We discuss an argument to explain these findings in Appendix R. However, further research is needed to test these proposed mechanisms.

Our findings challenge the common political use of immigrants as a scapegoat, particularly by populist regimes or far-right political parties. This rhetoric can be particularly harmful because it wrongly connects immigrants to crime, affecting their integration into their host communities and facilitating the adoption of *mano dura* (iron fist) policies that erode citizens' rights and exacerbate social injustices (Visconti 2020).

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Online Appendix

**Immigration Shocks and Unfounded Concerns about Crime:
Evidence from Haitian Migration to Chile**

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Appendix A: Politicians and claims about immigration and crime

Numerous politicians in Latin America have made comments that might reinforce stereotypes and misconceptions about crime and immigration in the region. For instance, the former president of Argentina, Mauricio Macri, claimed that “every day between 100 and 200 new people arrive in the city (i.e., Buenos Aires), and we do not know who they are; they come with connections with drug trafficking and crime.” Former Chilean President Sebastián Piñera has televised the expulsion of immigrants who have committed crimes,³ and has said that he will block the country’s door with a machete from those who come to commit crimes.⁴ This anti-immigration rhetoric has also been observed in other regions, such as Western Europe (Rydgren 2008) and the United States (Ewing et al. 2015).

This criminalization of immigration is occurring at a time when crime and insecurity have emerged as one of people’s top concerns worldwide (Perez 2015; Curiel and Bishop 2018). As with many other social issues, previous studies have shown that people often have inaccurate perceptions about crime (Esberg and Mummolo 2018). Gaps between fears about crime and actual victimization rates have been well documented (Dammert and Malone 2003; Ardanaz et al. 2014). This mismatch occurs because the fear of crime is not only explained by levels of violence and delinquency; it is a much more complex social phenomenon involving people’s economic, social, and political insecurities (Dammert and Salazar 2017).

³ *Meganoticias*. "[Interior concreta expulsion de 56 ciudadanos extranjeros por distintos delitos.](#)" December 13, 2019.

⁴ BioBio Chile. "[Cerrar "con machete" a inmigrantes que delinquen: lenguaje de Piñera genera críticas de la oposición.](#)" January 19, 2019.

Appendix B: Immigration in Chile

Chile received large numbers of migrants in the early stage of its formation as a nation-state. Besides Spanish settlers and colonizers, it received Western (Germans, British, Italians) and Eastern European (Croatians) migrants and a large group of Catholic Palestine diaspora fleeing the Ottoman empire (Stefoni-OIM 2011). However, the contemporary influx of immigrants, particularly from other Latin American countries in the past decade, is unprecedented. In 1992 immigrants in Chile represented 1% of the total population, but by 2020 this was close to 9% (Bellolio and Valdes 2020; Doña-Reveco 2022). Starting in the mid-2010s, many Venezuelans and Haitians sought to relocate to Chile (Stefoni-OIM 2011; OIM Migracion 2022). Before 2018, Haiti was one of the most common countries of origin for Latin American migrants in Chile (Sanchez et al. 2018). Chile's relative political and economic stability and the increasing barriers to migration to Global North countries have encouraged migrants from Latin America to consider Chile as a destination (Stefoni-OIM 2011).

This immigration wave is already influencing Chilean politics. The issue of immigration has been politicized and used for political gain and voting mobilization, with similar outcomes as in Western Europe and the United States (Grande, Schwarzbözl, and Fatke 2019). The former far-right presidential candidate Jose Antonio Kast, who lost the runoff election in 2021 (with 44% of the votes), used anti-immigration rhetoric in his campaign. For instance, he proposed digging a ditch along part of the northern border to prevent irregular migrants from crossing and creating an enforcement force resembling the US Immigration and Customs Enforcement in Chile.⁵

The emergence of political figures who utilize anti-immigration rhetoric is aligned with the increasing opposition to immigration in the country. For instance, the Survey Bicentenario UC⁶ asked: "Do you believe that currently, in Chile, there is a big, small, or no conflict between Chileans and immigrants." The percentage who responded "big" increased from 38% in 2018 to 48% in 2019. In the 2019 survey, 46% answered that walking in a neighborhood with a large migrant population triggered "a lot" (24%) of fear, and 22% said it generated "some" fear.

We find no evidence that Venezuelan migrants before 2018 affected concerns about crime. However, Chile has experienced an increase in violent crimes since the pandemic,⁷ which some have attributed to criminal gangs from Venezuela such as the *Tren de Aragua*.⁸ We believe that how this immigration is framed by fractions of the media and some politicians might have contributed to a possible change in perceptions of Venezuelans migrating to Chile. Similar arguments about the role of framing have been made about people's political attitudes during crises (Atkeson and Maestas 2014).

⁵ *The Guardian*, "[Chile far-right candidate rides anti-migrant wave in presidential poll.](#)" October 21, 2021.

⁶ [Source: Survey Bicentenario UC.](#)

⁷ *France 24*, "[Delincuencia atemoriza a Chile, que enfrenta peor crisis de seguridad en democracia.](#)" September 6, 2022.

⁸ *Bio Bio Chile*, "[Tren de Aragua en Chile: una amenaza regional que recorre Sudamérica.](#)" February 1, 2023.

Finally, a relevant question is whether inter-migration might affect our results. In particular, how many Haitian migrants continue to live in the same communities as when they applied for a visa? Data from the 2017 Census allows us to partially answer that question. It asked people if they lived in the same municipality as 5 years ago. Those who did not change their living location are considered “non-migrants” (for internal migration purposes). Notably, 75% of those not born in Chile were considered “non-migrants,” which provides evidence that a large majority of the foreign-born population usually stays in the same municipality for a long time (INE 2020). This decision to stay can be explained by multiple factors, such as developing safety nets or personal networks in these communities.

Appendix C: Visas in Chile

In 2018 (after our study period of 2014–2017), the government of Chile, led by center-right President Sebastian Piñera, implemented a series of political measures to control immigration from countries such as Haiti. The most relevant reform was requiring Haitians to obtain a visa to travel to Chile as tourists for the first time. Prior to these changes, citizens of almost every Latin American country did not need a visa to enter Chile as a tourist.⁹ An ID or passport were valid entry documents, which made irregular immigration crossing very rare. After entering as visitors, Latin American migrants could apply for a work visa using any type of employment contract,¹⁰ which made regular migration a possible and credible path. Obtaining a work visa also allowed migrants to have access to important public services such as health insurance and housing support (Ministry of Interior 2017). As a result, prior to 2018, migrants had a strong incentive to regularize their status in the country both because it was feasible and because it made them eligible for social services and support from the state.

Figure A1 shows the effect of the new immigration requirements adopted in 2018. It plots the net inflows of Haitians to Chile, which dramatically reduced after Piñera's immigration reforms.¹¹

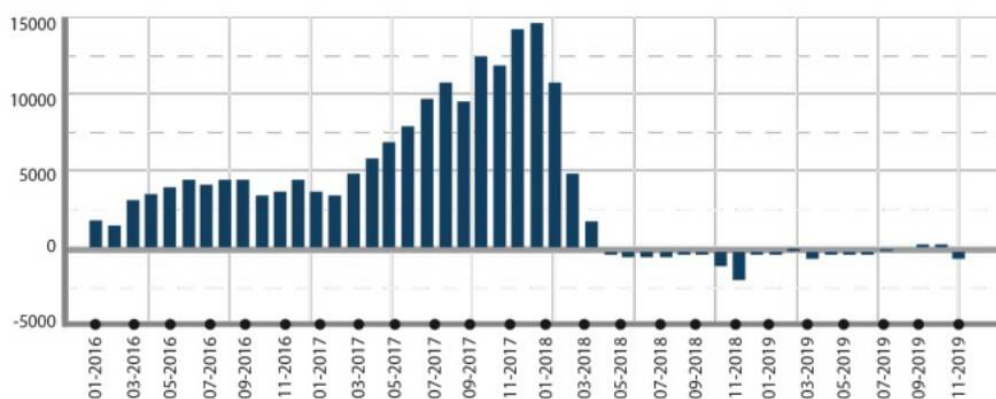


Figure A1: Net inflows of Haitian citizens to Chile.

To measure migration, we use the total number of non-tourist visas requested. During the study period (2014–2017), this is the best proxy for demographic changes for four reasons: (i) it encompasses all foreign nationals who intended to reside (temporarily or permanently) in the country, (ii) only simple steps were needed to obtain a visa after entering as a visitor (which did not require a tourist visa), (iii) there are strong incentives to obtain a non-tourist visa so migrants can access to social benefits for themselves and for their families, and (iv) police data shows low numbers of irregular crossings into Chile (an average of three people per day were detained for this reason before 2018) (Vedoya 2017).

⁹ Only people from the Dominican Republic needed a tourist visa to travel to Chile.

¹⁰ They could work for a large company or for a particular household.

¹¹ This is a modified version of the figure shown in Bellolio and Valdes (2020).

Deportations were very rare before 2018 since it was a complicated process to expel a foreigner from Chile, even if they were convicted of a crime (Cociña 2022). The new immigration law led to deportations becoming common (and even televised).¹²

Using visa applications, as we do in this study, is not only an adequate proxy for assessing migration. It is also a more accurate measure than one based on all border crossings, which would allow us to measure demographic changes only at the national level. Consequently, our measure allows us to capture immigration shocks at the local level.

While we lack data on migrants who entered as visitors but never requested a non-tourist visa, the numbers are expected to be low based on the simple steps required to obtain a visa. Thus, while we may be somewhat underestimating the number of actual migrants, we do expect not to be far off for the reasons discussed above. Finally, because we study *changes in immigration* rather than *immigration rates*, an underestimation should not bias our results since we are interested in how immigration evolves from year to year.

¹² *Deutsche Welle*, "[Chile ejecuta su mayor deportacion de migrantes de 2021](#)." May 5, 2021.

Appendix D: Outcome data

To evaluate concerns about crime, we use the following question from the Centro de Estudios Públicos (CEP) surveys: “Which are the three problems that the government should dedicate the greatest effort to solving?” Respondents identified three problems from a list of pre-defined issues that did not change across surveys. We focus on the issue “crime, robberies, and thefts.” The average crime concern is 0.52, meaning that almost half of the respondents in each municipality mentioned crime as one of the top three problems the government should address. The standard deviation is 0.22, showing evidence of variation across municipalities.

To measure crime rates, we use official data from the Minister of Interior and Public Security on crimes reported to police agencies and arrests made by police officers (Alberti et al. 2022). We are confident in this data for two main reasons. First, because it contains reports from victims as well as the police, we believe it best captures local crime rates. Second, Chile has a well-known reputation for delivering credible and transparent public information (Piñeiro et al. 2022) and has one of the least corrupt police agencies in Latin America (Evans 2020). Crime reporting has been shown to be strongly related to institutional stability, police presence, and perceived corruption (Soares 2004). Therefore, Chileans should be more likely to report crimes to the police compared to other Latin American countries based on their institutional strength (Levistky and Murillo 2009).

Appendix E: Generalized difference-in-differences

In the paper we use a binary indicator of immigration shocks, which is the only way to implement a dynamic DiD design using the *did* package in R (Callaway and Sant'anna 2020). In this appendix, we use a continuous version of demographic changes: the percentage-point change between years 1 and 2 (we call this variable “demographic change”). Because of the continuous structure of the exposure indicator, we now rely on a generalized DiD design (i.e., two-way fixed effect).¹³

Additionally, rather than using municipality-level data to estimate how demographic changes affect concerns about crime (the average concerns for each municipality),¹⁴ in this new analysis we use individual-level data and cluster the standard errors at the municipality level (there are 278 municipalities or clusters available for the analysis).¹⁵ Both the exposure and the outcome variables are expressed in standard deviation units. We use three individual-level covariates: age, gender, and education.

In sum, in this robustness check we evaluate whether we obtain the same results when using a different estimation approach (generalized rather than dynamic DiD), a different exposure indicator (continuous rather than binary), and a different level of analysis for the crime concerns outcome (individual rather than municipality level). The tables below provide the results of the impact of a demographic change using only Haitians and all the visas on crime concerns and crime rates (with and without covariates).

Table A1. Effects of a demographic change (continuous variable) on crime concerns (using a generalized DiD).

Treatment	Crime concerns	Crime concerns
Visas from Haiti	0.018* (0.009)	0.019* (0.009)
Visas from all countries	0.018 (0.015)	0.017 (0.015)
Covariates	No	Yes
Observations	13,551	13,551

Note: * $p < 0.05$. Standard errors clustered at the municipality level.

¹³ See Acemoglu, Autor, and Lyle (2004) and Vega-Mendez and Visconti (2021) for examples of using a DiD design with a continuous treatment.

¹⁴ Because the units need to be the same over time in a dynamic DiD, this analysis cannot be implemented with survey respondents as the unit of analysis (when is not panel data). As a result, we use a generalized DiD when using individuals as the unit of analysis.

¹⁵ Since the unit of analysis for crime rates is still the municipality, we use the same data as the dynamic DiD but implement a generalized DiD instead.

Table A2. Effects of a demographic change (continuous variable) on crime rates (using a generalized DiD).¹⁶

Treatment	Crime rates
Visas from Haiti	0.000 (0.020)
Visas from all countries	0.005 (0.022)
Covariates	No
Observations	1,348

Note: * $p < 0.05$. Standard errors clustered at the municipality level.

The continuous measure of migration captures the changes in the number of visa applications from one year to the next. As a reminder, we standardized this variable so that 0 represents the mean and 1 represents one standard deviation above the mean. Therefore, when using the continuous treatment, a one-unit increase in the independent variable (i.e., a one-standard-deviation increase in migration) is associated with a 0.018-standard-deviation increase in concerns about crime. For example, Valparaiso (the second-largest city in Chile) experienced a demographic change during the first CEP survey of 8.09 standard deviations. Based on the results of the generalized DiD, this city is experiencing an increase in concerns about crime of $0.018 * 8.09 = 0.149$ standard deviation units. This is a small effect with possible minimal effects within the confidence interval.

The results from the generalized DiD with a continuous variable report smaller effects than the dynamic DiD with a binary variable. Importantly, we use the latter as our main evidence for two main reasons. First, the dynamic DiD allows us to evaluate how the effects of immigration evolve over time based on length of exposure. Second, we argue that using immigration shocks (rather than a continuous variable) better reflects how citizens perceive sudden and large demographic changes and helps us to address the problem of having areas that might grow accustomed to demographic changes and no longer react to the arrival of newcomers.

We also use a generalized DiD with a binary treatment to be able to compare the effect sizes with the overall effect of the dynamic DiD.

¹⁶ Since covariates are time invariant when using data at the municipality level, they are not needed when using municipality fixed effects.

Table A3. Effects of immigration shocks (binary variable) on crime concerns (using a generalized DiD).

Treatment	Crime concerns	Crime concerns
Visas from Haiti	0.135* (0.055)	0.138* (0.53)
Visas from all countries	-0.077 (0.076)	0.087 (0.078)
Covariates	No	Yes
Observations	13,551	13,551

Note: * $p < 0.05$. Standard errors clustered at the municipality level.

Table A4. Effects of immigration shocks (binary variable) on crime rates (using a generalized DiD).

Treatment	Crime rates
Visas from Haiti	-0.090 (0.064)
Visas from all countries	0.070 (0.099)
Covariates	No
Observations	1,348

Note: * $p < 0.05$. Standard errors clustered at the municipality level.

These results align with the main findings reported in the paper. There is evidence of an increase in 0.135 standard deviations in concerns about crime after an immigration shock of Haitians but no evidence of an effect when analyzing all the visas. Also, there is no evidence of an increase in crime regardless of what visas we use to compute the immigration shock. It is important to acknowledge that these findings report small effects for an immigration shock of Haitians, and the confidence intervals include possible minimal effects.¹⁷

Comparing the dynamic and generalized DiD approaches using a binary treatment reveals that the effect sizes for the first results are larger. However, both are significant and in the same direction. Therefore, this robustness check confirms the main patterns.

¹⁷ We use the standard convention to interpret effect sizes: effects of 0.2, 0.5, and 0.8 standard deviation units are considered small, medium, and large, respectively (Lipsey and Wilson 2001).

When using a generalized DiD at the survey respondent level, the structure of the crime concerns outcome is binary (i.e., not an average at the municipality level as in the main analysis). Thus, we can run a logit model as a robustness check. Tables A5 and A6 report the results using continuous and binary treatments, respectively, which are consistent with the paper's main findings.

Table A5. Effects of a demographic change (continuous variable) on crime concerns (binary variable) using a logistic regression.

Treatment	Crime concerns	Crime concerns
Visas from Haiti	0.038* (0.019)	0.041* (0.019)
Visas from all countries	0.038 (0.032)	0.036 (0.034)
Covariates	No	Yes
Observations	13,551	13,551

Note: * $p < 0.05$. Standard errors clustered at the municipality level.

Table A6. Effects of immigration shocks (binary variable) on crime concerns (binary variable) using a logistic regression.

Treatment	Crime concerns	Crime concerns
Visas from Haiti	0.281* (0.116)	0.292* (0.112)
Visas from all countries	-0.167 (0.168)	-0.191 (0.173)
Covariates	No	Yes
Observations	13,551	13,551

Note: * $p < 0.05$. Standard errors clustered at the municipality level.

The coefficient of 0.038 (table A5) suggests that a one-standard-deviation increase in demographic changes (continuous variable) is associated with a higher likelihood of having concerns about crime. In particular, the odds ratio is equal to 1.04, meaning that the odds of reporting concerns about crime are 1.04 higher when there is an increase in a one-standard deviation in demographic changes. The coefficient of 0.281 (table A6) suggests that exposure to migration (binary variable) is associated with a higher likelihood of having concerns about crime. In particular, the odds ratio is equal to 1.3, meaning that the odds of reporting concerns about crime are 1.3 higher when there is exposure to a migration shock (compared to when there is no exposure).

Appendix F: Matching methods for TS-SC

As a robustness check we use the PanelMatch package, which allows us to implement matching methods to time-series cross-sectional data (Imai et al. 2021). The main function of this application is to incorporate matching into the estimation of binary treatment effects. To obtain covariate balance we use a Mahalanobis distance and then use the generalization of a difference-in-differences estimator to estimate the effects of the various immigration shocks we study (binary indicators). Tables A7 and A8 present the results when using the PanelMatch package on crime concerns and crime rates (both expressed in standard deviation units). The findings are congruent with the main results: an increase in the number of visa applications from Haitians has a significant effect on concerns about crime, and there is no evidence to support any of the other effects (all visas on concerns about and crime rates and visas from Haiti on crime rates). In particular, exposure to an immigration shock of Haitians increases concerns about crime by 1.337 standard deviation units, which can be interpreted as a large effect.

Table A7. Panel match: crime concerns.

Treatment	Point Estimate	95% CI
Visas from Haiti	1.337	[0.046, 3.880]
Visas from all countries	-0.154	[-3.287, 1.756]

Table A8. Panel match: crime rates.

Treatment	Point Estimate	95% CI
Visas from Haiti	-0.022	[-0.803, 0.711]
Visas from all countries	-0.262	[-0.786, 0.237]

Appendix G: Generalized synthetic control method

As another robustness check, we use the *gsynth* package to implement a generalized synthetic control method (Xu 2020), which unifies linear fixed effects and synthetic control models. This design creates counterfactuals for the treated units by using information from the control group based on a fixed effect model.¹⁸ The outcome is concerns about crime in standard deviation units. The treatment is a binary indicator of exposure to immigration (same variables used in Appendix E, for the generalized DiD with a binary treatment). Table A9 reports the results when using the *gsynth* package on crime concerns and crime rates. The findings are congruent with the previous results: exposure to Haitian migration suggests a 0.37-standard-deviation increase in concerns about crime, which can be interpreted as a small-sized effect. None of the other results provide enough evidence to reject the null hypothesis of no effects.

Table A9. Overall summary of treatment effects.

Treatment	Crime concerns	Crime rates
Visas from Haiti	0.370* (0.128)	-0.167 (0.093)
Visas from all countries	-0.283 (0.214)	-0.052 (0.131)
Covariates	No	No

Note: * p-value < 0.05. Bootstrapped standard error.

¹⁸ The *gsynth* package only allows the use of unit-variant covariates, but our covariates are time invariant so cannot be included in the analysis.

Appendix H: BARP

To construct the outcome, we average crime concerns at the municipality level, an approach known as disaggregation (e.g., Erikson, Wright, and McIver 1993). As a robustness check, we use BARP (Bayesian additive regression trees combined with post-stratification), which enhances the traditional multilevel regression and post-stratification (MRP) procedure (Bisbee 2022).

To estimate the outcome (i.e., crime concerns at the municipality level) using BARP, the model includes individual-level characteristics (i.e., age, education, and gender) and municipality-level characteristics (i.e., the same pretreatment covariates used in the original dynamic DiD: vote for the right-wing candidate, turnout, income, and population). We also include two geographic indicators (i.e., municipality and province).

Table A10 reports the results for the overall treatment effect when using a dynamic DiD, and the BARP estimates as the outcome (standardized version). This robustness check confirms the study's main conclusions: an immigration shock increases concerns about crime by 0.423 standard deviation units, a significant and small-sized effect. However, there is no evidence of an impact on concerns about crime when using all visas to capture the immigration shock. We do not include covariates in the dynamic DiD estimation since these variables were included to construct the outcome.

Table A10. Overall treatment effects (using MRP to construct crime concerns).

Treatment	Crime concerns
Visas from Haiti	0.423* (0.212)
Visas from all countries	-0.240 (0.201)
Covariates	No
Observations	1,348

Note: * p-value < 0.05.

Appendix I: Crime as top concern

In the paper, crime concerns are measured based on respondents' listing of the three most important problems the country faces. As a robustness check, we measure crime concerns among those who list crime as the top problem. The results, reported in Table A11, show an increase in 0.438 standard deviation units (significant at the 0.1 level), an effect size like the one found in the main analysis. As expected, visas from all countries do not affect crime concerns.

Table A11. Overall treatment effects (using crime as first problem to construct crime concerns).

Treatment	Crime concerns
Visas from Haiti	0.435† (0.243)
Visas from all countries	-0.113 (0.547)
Covariates	No
Observations	1,348

Note: † p-value < 0.1.

Appendix J: Treatment data

We obtained data on the number of visa applications at the municipality level directly from the Ministry of the Interior, which is responsible for the country's migration processes. This data can be requested through *Chile Transparente* (FOIA – RTI Law).

To construct the immigration shock, the percentage change is computed using year 1 before the survey (number of visas requested 12 months before the survey) and year 2 before the survey (number of visas requested 13–24 months before the survey). Percentage change: $(\text{Visas year 1 before survey} - \text{Visas year 2 before survey}) / (\text{Visas year 2 before survey})$.

Appendix K: Descriptive statistics

In this appendix we provide maps showing the municipalities exposed to an immigration shock of people from Haiti and to an immigration shock using all the visa requests. Only 2% of the municipalities are exposed to both immigration shocks (all visas and only Haitian visas). As a result, a large majority of Haitians do not migrate to the same places as other migrant communities (such as Venezuelans). This distinction about where immigrants settle allows us to estimate different effects for immigration shocks. The maps also depict (in gray) the municipalities not included in the analysis because they are not part of the CEP survey. However, excluding some areas does not seem to be problematic since the municipalities used in the study represent 95% of the country's population according to the census implemented before the immigration wave.

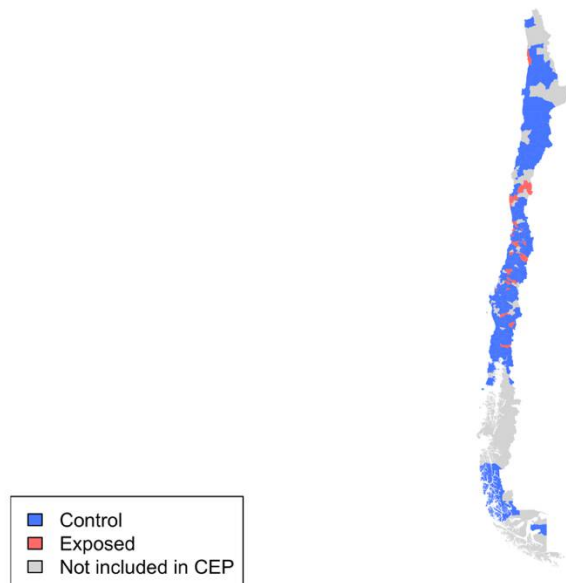


Figure A2: Map of where Haitian migrants settle.

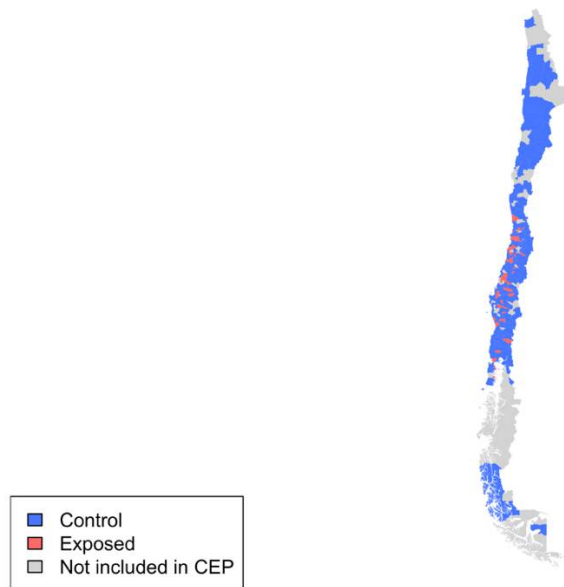


Figure A3: Map of where all migrants settle.

An important question is: What are the socio-demographic characteristics of the areas in which Haitians live? We use the variables included as controls in the dynamic DiD to compare the areas exposed to the two types of immigration shocks. Both groups have almost identical preferences for the right-wing presidential candidate in 2013. Also, in both groups the average municipality is small or medium sized (fewer than 100,000 inhabitants). Finally, the average municipality for both groups has a low or medium-low average income.

Another relevant question is: do Haitian immigrants live where they work? Answering this question is complicated. One way to approach it is to check whether these municipalities are considered commuter towns (*ciudades dormitorio*).¹⁹ Only 14% of the municipalities exposed to an immigration shock of people from Haiti are considered commuter towns, and only 8% of municipalities exposed to an immigration shock using all visas are commuter towns. As a result, we believe that in a large majority of cases, people live and work in the same municipality. However, living and working in different places makes it even harder to find a result, so we can interpret our findings as a conservative estimate.

¹⁹ As a source, we use a report from [Plataforma Urbana](#) and the following [op-ed](#).

Appendix L: Effects of immigration shocks using other countries

We also assess the effects of immigration shocks resulting from inflows of people from other Latin American countries such as Venezuela, Colombia, Bolivia, Argentina, and Ecuador. Venezuelans and Haitians are responsible for the largest demographic change in Chile in recent years (Sanchez et al. 2018). Most of these other countries have lower migration rates, which makes it difficult to implement a dynamic DiD in which the unit of analysis is the municipality. We therefore use a generalized DiD with survey respondents as the unit of analysis for these alternative immigration shocks and find no evidence of an increase in concerns about crime (expressed in standard deviation units). We use a binary treatment to allow us to make comparisons with the main findings. Table A12 reports the results with and without covariates. When using data at the survey respondent level, the covariates included in the analysis are education, age, and gender.

Table A12. Effects of immigration shocks (binary variable) on crime concerns.

Treatment	Crime concerns	Crime concerns
Visas from Venezuela	-0.061 (0.044)	-0.060 (0.043)
Visas from Colombia	0.038 (0.075)	0.039 (0.077)
Visas from Bolivia	-0.016 (0.060)	-0.026 (0.059)
Visas from Argentina	-0.022 (0.053)	-0.023 (0.053)
Visas from Ecuador	-0.082 (0.059)	-0.084 (0.057)
Covariates	No	Yes
Observations	13,551	13,551

Note: * $p < 0.05$. Standard errors clustered at the municipality level.

Appendix M: Full results dynamic difference-in-differences

In this appendix, we report the full results of the main findings: the effect of Haitian visas and all visas on crime concerns and crime rates (both expressed in standard deviation units). We also provide the results for the overall treatment effect (with and without covariates).

Table A13: Dynamic DiD: Crime concerns using visas from all countries.

Event time	ATT	95% CI
-5	0.439	-1.872, 2.749
-4	-0.263	-1.204, 0.678
-3	-0.181	-2.403, 2.041
-2	0.145	-0.520, 0.811
-1	0.253	-0.520, 1.027
0	-0.973	-1.921, -0.026
1	-0.828	-1.673, 0.017
2	-0.054	-0.573, 0.465
3	-0.777	-1.523, -0.031

Table A14: Dynamic DiD: Crime concerns using only visas from Haiti.

Event time	ATT	95% CI
-7	-0.235	-0.951, 0.481
-6	-0.136	-1.288, 1.015
-5	0.126	-1.249, 1.500
-4	-0.157	-2.000, 1.686
-3	-0.048	-1.417, 1.320
-2	-0.240	-1.054, 0.575
-1	-0.055	-1.011, 0.901
0	0.542	-0.883, 1.967
1	0.382	-0.822, 1.586
2	0.618	-0.523, 1.760
3	0.477	-0.775, 1.728
4	0.356	-0.605, 1.317
5	0.587	-0.404, 1.579
6	0.313	-0.674, 1.301
7	0.768	-0.199, 1.736
8	1.118	0.174, 2.061

Table A15: Dynamic DiD: Crime rates using visas from all countries.

Event time	ATT	95% CI
-5	-0.221	-2.733, 2.290
-4	-0.266	-1.273, 0.742
-3	-0.210	-0.866, 0.446
-2	-0.046	-0.265, 0.173
-1	0.287	-0.337, 0.912
0	-0.063	-0.724, 0.598
1	-0.066	-0.396, 0.265
2	0.152	-0.452, 0.757
3	0.129	-0.444, 0.702

Table A16: Dynamic DiD: Crime rates using only visas from Haiti.

Event time	ATT	95% CI
-7	-0.164	-0.384, 0.056
-6	-0.034	-0.215, 0.148
-5	-0.311	-0.902, 0.280
-4	-0.130	-0.380, 0.120
-3	0.074	-0.470, 0.618
-2	0.131	-0.061, 0.324
-1	0.045	-0.232, 0.321
0	-0.163	-0.442, 0.116
1	-0.100	-0.333, 0.132
2	-0.062	-0.432, 0.308
3	-0.124	-0.707, 0.459
4	-0.165	-0.745, 0.416
5	-0.351	-0.831, 0.129
6	-0.309	-0.784, 0.166
7	-0.357	-0.889, 0.175
8	-0.099	-0.370, 0.173

Below we summarize the results when computing the overall treatment effects, which is the average of all the effects after exposure to the immigration shock.

Table A17. Overall treatment effects.

Treatment	Crime concerns	Crime concerns	Crime rates	Crime rates
Visas from Haiti	0.573* (0.244)	0.753* (0.313)	-0.192 (0.105)	-0.264 (0.122)
Visas from all countries	-0.658 (0.308)	-0.612 (0.377)	0.038 (0.070)	-0.045 (0.159)
Covariates	No	Yes	No	Yes
Observations	1,348	1,348	1,348	1,348

Note: *Bonferroni-adjusted p-value < 0.05

When evaluating the unstandardized effects, they indicate that the overall effect of a Haitian immigration shock is a 13-percentage-point increase (95% CI: [2, 24]). Moreover, when evaluating the disaggregated post-treatment effects, the point estimate for seven surveys after the first exposure is 17 percentage points, and for eight surveys after the first exposure it is 25 percentage points. As a reference, the average concern about crime in the control group is 53%.

How large is a 13-percentage-point change in concerns about crime? To provide some context, we compare this effect with the impact of other contextual shocks on public opinion. On the one hand, Margalit (2013) shows that job loss is associated with an increase of about 24 percentage points in support for greater welfare assistance, which he interprets as a large impact on public opinion. On the other hand, Sloggy et al. (2021) find that exposure to a hurricane increases beliefs that climate change is happening by 0.25 percentage points, a significant but very small effect. Our findings fall in the middle of these effects, as a medium-sized effect but with wide confidence intervals that include possible impacts as large as those of Margalit (2013) and as small as Sloggy et al. (2021). We encourage further research on this understudied topic in the Global South to reduce uncertainty around our main estimates.

In a final robustness check, we test whether the impact of Haitian migration is robust to including covariates. We add the following municipality-level characteristics: turnout in 2013,²⁰ income in 2003,²¹ right-wing vote share in 2013,²² and population in 2011.²³ Our results hold after incorporating these covariates.²⁴

²⁰ Turnout presidential election 2013–2014. Source: Servel.

²¹ Income ranking. Source: UNDP.

²² Evelyn Matthei's vote share presidential election 2013–2014. Source: Servel.

²³ Population projection for 2011. Source: INE.

²⁴ When evaluating the impact of visas from Haiti on crime rates using covariates, we can see two significant negative effects (post-exposure). However, since they follow an on-and-off pattern and the overall treatment effect is not significant (as reported in Table A17), there is no evidence to claim that crime rates experienced a reduction with the arrival of Haitians. Moreover, that null finding on crime rates is confirmed by more than ten other analyses conducted in the study.

Table A18: Dynamic DiD: Crime concerns using visas from all countries (using covariates).

Event time	ATT	95% CI
-5	0.414	-3.218, 4.045
-4	-0.276	-1.612, 1.060
-3	-0.233	-3.779, 3.314
-2	0.067	-1.762, 1.896
-1	0.258	-1.110, 1.625
0	-0.783	-3.473, 1.907
1	-0.892	-1.803, 0.018
2	0.002	-1.560, 1.563
3	-0.776	-1.877, 0.325

Table A19: Dynamic DiD: Crime concerns using only visas from Haiti (using covariates).

Event time	ATT	95% CI
-7	-0.311	-1.106, 0.485
-6	-0.487	-1.058, 0.084
-5	0.197	-1.334, 1.727
-4	-0.300	-2.421, 1.821
-3	0.274	-0.664, 1.212
-2	-0.559	-1.256, 0.139
-1	0.140	-0.897, 1.177
0	0.564	-0.847, 1.976
1	0.347	-0.765, 1.459
2	0.424	-0.446, 1.293
3	0.610	-0.526, 1.745
4	0.407	-0.599, 1.413
5	0.691	-0.346, 1.728
6	0.583	-0.695, 1.861
7	1.210	0.265, 2.154
8	1.945	1.849, 2.041

Table A20: Dynamic DiD: Crime rates using visas from all countries (using covariates).

Event time	ATT	95% CI
-5	-0.167	-2.604, 2.270
-4	-0.443	-2.499, 1.613
-3	-0.128	-0.713, 0.458
-2	-0.022	-0.359, 0.315
-1	0.302	-0.286, 0.889
0	-0.082	-0.638, 0.475
1	-0.128	-0.661, 0.404
2	0.003	-1.345, 1.350
3	0.028	-0.670, 0.726

Table A21: Dynamic DiD: Crime rates using only visas from Haiti (using covariates).

Event time	ATT	95% CI
-7	-0.161	-0.352, 0.031
-6	-0.071	-0.240, 0.098
-5	-0.456	-1.150, 0.238
-4	-0.075	-0.336, 0.185
-3	0.063	-0.332, 0.458
-2	0.129	-0.109, 0.366
-1	0.010	-0.336, 0.356
0	-0.234	-0.589, 0.121
1	-0.120	-0.390, 0.149
2	-0.060	-0.455, 0.387
3	-0.125	-0.637, 0.387
4	-0.185	-0.657, 0.288
5	-0.446	-0.858, -0.034
6	-0.422	-1.002, 0.159
7	-0.521	-1.234, 0.192
8	-0.261	-0.511, -0.010

For crime rates, we use the standardized version of the total number of crimes per 100,000 people. The average crime rate in the sample is 327.84 crimes, and the standard deviation is 386.45. The average of post-treatment coefficients of a Haitian immigration shock on crime rates is a non-significant reduction of 0.192 standard deviation units (95% CI: [-0.398, 0.014]). This result demonstrates that Haitian migration is not increasing crime rates, which we provide as evidence of a mismatch between suggestive evidence of an increase in concerns about crime and no evidence of an actual increase in crime rates. The null findings for crime rates are also observed when using all the other robustness checks.

Appendix N: Multiple comparison

We use a Bonferroni correction for multiple comparisons when computing the overall treatment effect in the dynamic DiD (to correct the results based on the analysis with and without covariates). Additionally, we check whether the significant effect found after eight exposure periods in Figure 1a was robust to a multiple comparison correction. Specifically, that p-value is equal to 0.0004. As a result, if we use a Bonferroni correction for this result, the new p-value will be 0.0004 times the number of tests (i.e., pre- and post-treatment periods): $0.0004 * 16 = 0.0073$. That corrected p-value is still significant (lower than 0.05).

Appendix O: Summary of designs and findings

Table A22. Summary of all the analyses conducted in the study and their results.

Design	Effect of visas from Haiti on crime concerns	Effect all visas on crime concerns	Effect visas from Haiti on crime rates	Effect all visas on crime rates
1. <i>Dynamic DiD (overall treatment effect)</i> <ul style="list-style-type: none"> No covariates Binary treatment 	Significant positive effect	No evidence of an effect	No evidence of an effect	No evidence of an effect
2. <i>Dynamic DiD (overall treatment effect)</i> <ul style="list-style-type: none"> Covariates Binary treatment 	Significant positive effect	No evidence of an effect	No evidence of an effect	No evidence of an effect
3. <i>Dynamic DiD (effects by time of exposure)</i> <ul style="list-style-type: none"> No covariates Binary treatment 	Significant positive effect (after eight exposures)	No evidence of an effect	No evidence of an effect	No evidence of an effect
4. <i>Dynamic DiD (effects by time of exposure)</i> <ul style="list-style-type: none"> Covariates Binary treatment 	Significant positive effect (after seven exposures)	No evidence of an effect	No evidence of an effect	No evidence of an effect
5. <i>Generalized DiD (using linear regression)</i> <ul style="list-style-type: none"> No covariates Binary treatment 	Significant positive effect	No evidence of an effect	No evidence of an effect	No evidence of an effect
6. <i>Generalized DiD (using linear regression)</i> <ul style="list-style-type: none"> Covariates Binary treatment 	Significant positive effect	No evidence of an effect	N/A ²⁵	N/A
7. <i>Generalized DiD (using linear regression)</i> <ul style="list-style-type: none"> No covariates Continuous treatment 	Significant positive effect	No evidence of an effect	No evidence of an effect	No evidence of an effect
8. <i>Generalized DiD (using linear regression)</i> <ul style="list-style-type: none"> Covariates Continuous treatment 	Significant positive effect	No evidence of an effect	N/A ²⁶	N/A
9. <i>Generalized DiD (using logit)</i> <ul style="list-style-type: none"> No covariates Binary treatment 	Significant positive effect	No evidence of an effect	No evidence of an effect	No evidence of an effect
10. <i>Generalized DiD (using logit)</i> <ul style="list-style-type: none"> Covariates Binary treatment 	Significant positive effect	No evidence of an effect	N/A ²⁷	N/A

²⁵ Covariates are time invariant when using municipality-level data. Therefore, they are not needed when using municipality fixed effects.

²⁶ Covariates are time invariant when using municipality-level data. Therefore, they are not needed when using municipality fixed effects.

²⁷ A binary version of crime rates is not available.

<p><i>11. Generalized DiD (using logit)</i></p> <ul style="list-style-type: none"> • No covariates • Continuous treatment 	Significant positive effect	No evidence of an effect	N/A	N/A
<p><i>12. Generalized DiD (using logit)</i></p> <ul style="list-style-type: none"> • Covariates • Continuous treatment 	Significant positive effect	No evidence of an effect	No evidence of an effect	No evidence of an effect
<p><i>13. Generalized Synthetic Control Method</i></p> <ul style="list-style-type: none"> • No covariates • Binary treatment 	Significant positive effect	No evidence of an effect	No evidence of an effect	No evidence of an effect
<p><i>14. Dynamic DiD and BARP</i></p> <ul style="list-style-type: none"> • No covariates • Binary treatment 	Significant positive effect	No evidence of an effect	No evidence of an effect	No evidence of an effect
<p><i>15. DiD and Matching (Mahalanobis distance)</i></p> <ul style="list-style-type: none"> • Covariates • Binary treatment 	Significant positive effect	No evidence of an effect	No evidence of an effect	No evidence of an effect

Appendix P: Haitians in Chile

Our main findings are consistent with survey and qualitative evidence (e.g., from the news media) about how poorly Haitian immigrants are treated in Chile. For example, 48% of respondents to a 2018 survey of Haitians living in Chile reported feeling discriminated against, predominantly when looking for jobs, on public transportation, and in public spaces (CENEM-UTalca 2018). A different survey conducted in 2022 shows that Haitians represent a higher percentage of victims of discrimination for the way they speak, their race, and socioeconomic status; 46% of Haitian respondents said they had received frequent negative comments for being foreign or an immigrant (Scherman and Etchegaray 2022). Qualitative evidence from semi-structured interviews provides additional evidence of racism in Chile (Rojas Pedemonte et al. 2015). In these interviews, Haitians recognize skin color as a barrier to full integration into Chilean society.

News media stories have documented similar patterns of racial discrimination. One of the most visible recent phenomena was that of Haitian migrants at the southern US border coming all the way from Chile to try to enter the United States. A *New York Times* piece from September 30, 2021, illustrates this issue with testimonials from Haitians in Chile such as, “They tell us to go back home, that we are scum,” or “We were sold the ‘Chilean dream,’ but it turned out to be false.”²⁸

Haitian migration has also been a salient issue in the public discourse and Chilean media. Evidence from newspapers shows how Haitians arriving in Chile became part of the public discussion between 2014 and 2018 (Severino 2020). The large immigration influx, particularly the arrival of Haitians, was a key topic during the 2017 presidential election (Dammert and Erlandsen 2020). Also, evidence from Twitter found similar results about the saliency of this issue (Montecinos, Ulloa, and Becker 2021).

Before the large-scale Haitian migration to Chile, one of the most studied phenomena was Peruvian immigration (Lube and Garces 2014). However, Peruvian migration does not fully compare to Chile’s experience after 2015. This demographic change was never a topic of national salience, it was never discussed during a presidential election, and many Peruvians relocated to the capital rather than all over the country (Torres and Garces 2013), such as in the Venezuelan and Haitian migration case.

²⁸ *The New York Times*, [“Why Haitians in Chile Keep Heading North to the U.S.”](#) September 30, 2021.

Appendix Q: Race and discrimination

From a historical perspective, the notion that “White ways” of living and cultural norms are more desirable enabled Latin American elites to establish social dominance in the early stage of the nation- and state-building process. The concept of “whitening” (*blanqueamiento*) is deeply ingrained in the cultural fabric of many nations in this sub-continent (Graham, 2010). For example, the saying “money whitens” has been pervasive in recent decades in countries such as Brazil, where there is a strong positive correlation between being perceived as white and having a higher socioeconomic status (Schwartzman 2007; De Micheli 2021).

In Chile, “pigmentocracy” is prevalent: skin color shapes social mobility (Telles and Steele 2012; Levitt 2015). Additionally, Chileans have a generalized perception of a racially homogeneous nation, mostly formed by “Mestizos” but inaccurately perceived as predominantly White and largely neglecting indigenous heritage (Latinobarometro 2011; Barandiarán 2012; Richards and Gardner 2013; Bonhomme 2020). For example, Bonhomme (2022) explains that anti-Black and anti-indigenous sentiment is ingrained in Chilean society. Anti-immigrant attitudes have re-emerged partly as the result of the current influx of South–South migrants. Chileans claim to be “white(r)” than the newcomers, making the concept of “whiteness” a powerful way to maintain a higher rank in the social hierarchy, which can translate into restrictive discrimination and prejudice towards non-White newcomers.

Furthermore, in Chile and other Latin American nations, class (rather than race) has historically been perceived as a more relevant social division (Richards 2016; Bonhomme 2022). However, with the recent influx of Black immigrants, the issue of race has begun to challenge the perception that Chile is racially homogeneous and influenced mostly by Eurocentric values.

In the manuscript, we focus on race as a possible mechanism to explain misconceptions about Haitians. Yet other plausible explanations might arise from alternative variables such as socioeconomic status or education. To evaluate these explanations, we use administrative data on migrants’ education levels. Only 1.3% of the visa applications come from people with no education, but 35% are from people who did not provide information about their education. When focusing only on Haitians, 0.08% of applicants have no formal education, and 34% did not answer the question. Therefore, there is reason to believe that Haitians are not necessarily less educated than the average migrant in Chile, which makes the mechanism of racial discrimination more plausible as the key explanation for unfounded concerns about crime.

Appendix R: Perceived differences

We discuss whether *perceived differences* between migrants and native-born citizens might help interpret our main findings. What explains the perceived differences? We hold that two main mechanisms may be at play when explaining the gap between both groups. The first is a social identity mechanism, where individuals shape their identity based on their group (Tajfel et al. 1979) and tend to emphasize shared group characteristics to preserve their identity and self-image. This social distance (or how different the other is) created by group identity is commonly referred to as the “us” versus “them” distinction. Based on the social categories we assign to people, they become in-group or out-group members. This process can lead to discrimination against out-group members, increasing misconceptions and stereotypes about migrants. The second is an intergroup anxiety mechanism, where the perceived gap increases through negative feelings such as discomfort, disgust, or even fear associated with interacting with out-group members (Dovidio and Gaertner 1986). Such anxiety can generate hostility toward newcomers such as immigrants depending on their differences (Brader, Valentino and Suhay 2008) and increase support for restrictive and protective policies (Albertson and Gadarian 2015). Notably, racial or socioeconomic differences between foreigners and native-born citizens might trigger these mechanisms explaining the gap between groups.

Appendix S: Removing last survey

In this extra robustness check, we removed the last survey wave from our sample (the tenth survey); by doing that, the *did* package automatically computed seven rather than eight post-exposure periods. The average of post-treatment effects for that analysis is a significant increase of 0.642 standard deviation units (95% CI: 0.185, 1.099) in concerns about crime. Our findings are thus robust to a dynamic DiD computed with both seven post-treatment periods (using nine surveys) and eight post-treatment periods (using ten surveys). It is important to note that the coefficients and confidence intervals for each time period are not identical when comparing the main analysis and the robustness check because by removing the last survey we are dropping observations across all time periods (i.e., respondents from the last wave can be never treated or exposed at different times such in the eighth period).

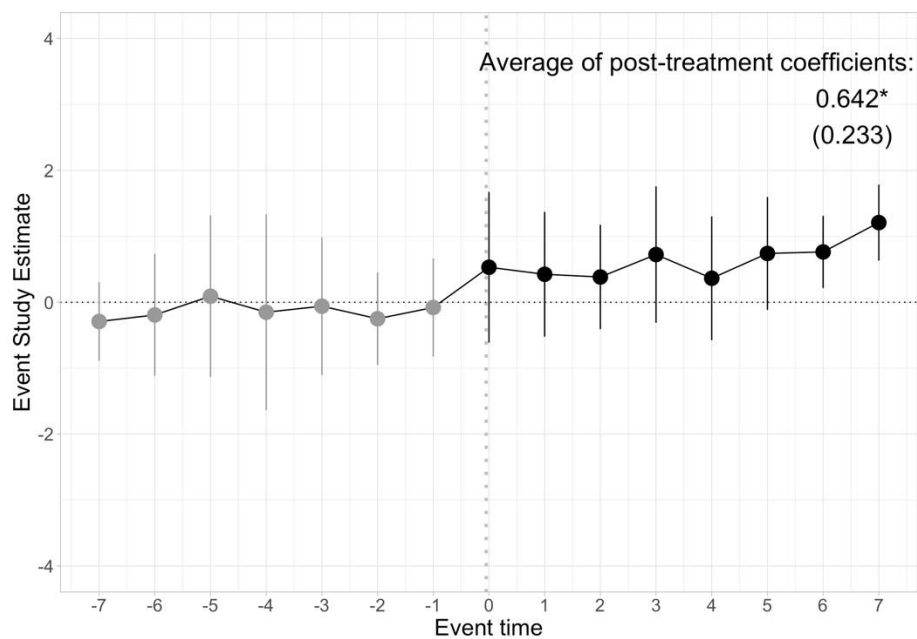


Figure A4: Average effect of an Haitian immigration shock on concerns about crime by length of exposure using nine survey waves. Results in grey are pre-exposure and in black are post-exposure. Lines denote 95% confidence intervals. The overall treatment effect is reported using coefficients, standard errors in parentheses and (*) p-values lower than 0.05. N = 1,221.

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Figure 1

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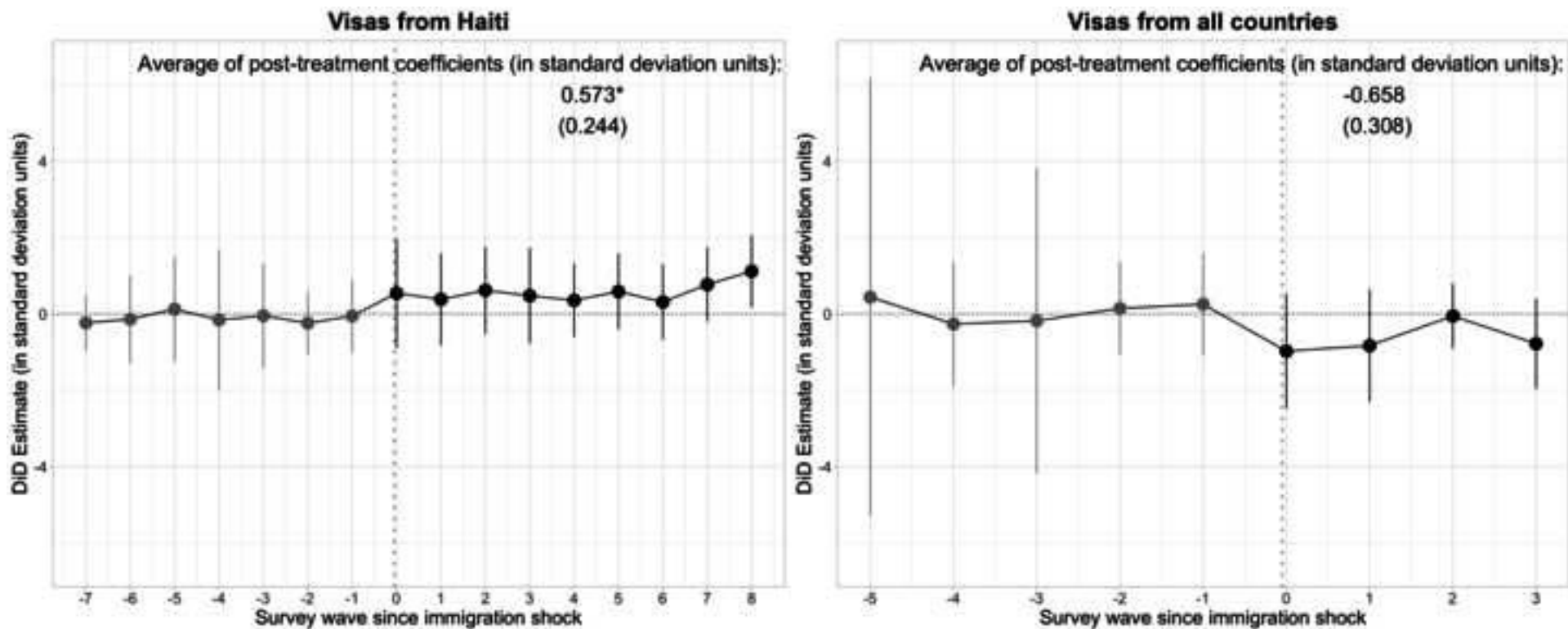


Figure 2

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