President Petro and Immigration Policy:
The Role of De-Venezuelization in Shaping Public Sentiment in Colombia

by
Nibia Becerra Santillan & James Hernández

Advisor:
Dr. Leslie Myint

STAT 451: Causal Inference
Department of Mathematics, Statistics, and Computer Science
Macalester College
Fall 2024

Since 2015, Colombia has become the primary host for nearly 3 million Venezuelan migrants fleeing Venezuela's political and economic crises. These immigrants face significant challenges, including discrimination, xenophobia, and barriers to integration, while Colombia struggles with resource limitations and political tensions surrounding migration. This study examines how the transition from President Iván Duque's open-door policies, including the Temporary Protection Statute for Venezuelan Migrants (EPTIV), to President Gustavo Petro's "de-Venezuelization" approach has shaped public attitudes towards immigration in Colombia. Using a Difference-in-Differences (DiD) analysis, we evaluate the causal impact of Petro's policies on public opinions, leveraging Latinobarómetro survey data from 2018, 2020, and 2023, along with socioeconomic indicators from UN ECLAC. The analysis focuses on changes in attitudes toward immigrants in Colombia, comparing them with regional trends. Findings highlight how Petro's shift from targeted migration policies to a broader focus has decentralized immigration management, leading to weakened support structures and increased exclusionary attitudes. This study contributes to understanding how shifting political agendas and institutional frameworks influence public perceptions of migrants. The results provide critical insights into the resilience of host nations in addressing migration challenges while navigating political priorities and resource constraints.

The Venezuelan Diaspora in Colombia

In the past decades, Colombians fleeing civil war and economic collapse have migrated to Venezuela, seeking a home in the nation's peace and prosperity. Since roughly 2015, this has flipped, with Colombia hosting almost 3 million Venezuelans who have left the Chavez-Maduro regimes (2024). An explosion in inflation, suppression of democracy, high violent crime rates, and food/ medicine shortages have caused the second largest displacement of a people (over 7 million) in the world, only following Syrian refugee numbers (2021). With Colombia as the primary host for these migrants, the nation has had to rapidly adapt to the needs of a significant population facing limited resources and challenging social integration. This influx has presented Colombia with unique challenges and opportunities, shaping national discourse on migration and highlighting tensions around resource allocation, identity, justice, and social cohesion. The mass arrival of Venezuelans has created an environment of political tension, with various factions framing the crisis differently, influencing public perception and social dynamics in Colombia.

Venezuelans in Colombia face a myriad of social and institutional issues, experiencing discrimination, xenophobia, and obstacles to integration within Colombian society. These immigrants have been othered by native-borns, with the diaspora frequently being labeled as a criminal, burden, and undesirable entity (Villamizar 2021). Studying this diaspora - and the social rejection it faces - within the Colombian context is essential for understanding how large-scale migration impacts social cohesion, shapes public opinion, and tests the resilience of host nations' political and social institutions in addressing integration and human rights challenges.

Two Approaches: Open-Door & De-Venezuelization

Former president Iván Duque was staunchly against the Venezuelan Maduro government- an extension of the Chavista government that is commonly blamed for the political and economic crisis in Venezuela (Sen, 2019). Given that he viewed the influx of Venezuelans into Colombia as an extension of the failures of President Maduro, Duque took an open-door approach that welcomed Venezuelans (Otis, 2021). A primary example is his Statute for Temporary Protection for Venezuelan Immigrants (EPTIV), providing 10-year legal status to one million Venezuelans in Colombia while also calling for international aid (2021).

This approach lies with geopolitical theories that many states, particularly liberal Western states, use immigration as a tool to promote sentiments that go against nations they deem adversarial. This helps these governments build international and domestic credibility, furthering their political agendas. As such, immigrants and refugees get categorized into varying levels of deservingness as they align with host nations political values (Joslyn 2018; Atkinson & Jackson 2019).

In 2022, democratically elected Gustavo Petro became President of Colombia, the first leftist to do so. His campaign promised to include the Venezuelan Maduro Government in the solution to control the migration crisis (Sanchez Cabarcas et al. 2024), as he believes the root cause lies within US sanctions placed on Venezuela in 2019 (Silva 2024). As such, Petro has de-Venezuelized rhetoric towards immigration, with conversations focusing on the Darien Strait[1], and how immigrants oftentimes make their way to Colombia as a transitional resettlement, to later travel north to the United States. Though he has also limited this type of migration (Widakuswara, 2023), it is clear that his priorities lie with the Panamanian Border. This focus has

---

[1] A dangerous route near the Panamanian/ Colombian border that many immigrants traverse during their journey to the United States.

resulted in an erosion of the social nets in place to manage Venezuelan immigrants and refugees, as seen by the complete eradication of the Border Management Office in charge of handling migration and gradually abandoning policies that target Venezuelans, notably the EPTIV (O'Neil & Freeman, 2024).

Given that Colombia hosts the largest Venezuelan diaspora globally, this tactic has had major implications. As the national government has drastically changed the narrative of immigration, attempts at solutions have decentralized, resulting in mismanagement and more localized strains. At the same time, local governments have followed the President in approaches against Venezuelans, though they blame Venezuelan immigrants rather than the social structures that have all but abandoned them (O'Neil & Freeman, 2024). This can best be understood with Blalock's Group Threat Perspective Theory, which helps to explain ethnic conflicts and group dynamics. Blalock explains that [perceived] economic and social competition between groups can exacerbate tensions, leading to exclusionary practices implemented by the dominant group through institutional means (Blalock 1967), even if the issue lies more with structural inequality or insufficient/ mismanaged government funding (Merton 1936), as is being realized by the Petro approach.

The literature highlights how Colombia's evolving migration policies reflect shifting political agendas, with Duque's open-door approach contrasting sharply with Petro's de-Venezuelization strategy that deprioritizes Venezuelan immigrants. This shift has decentralized immigration management and created conditions for exclusionary attitudes. However, it has not been explored how these changes in government rhetoric and institutional support have shaped public attitudes toward immigrants in Colombia. How did one year of de-Venezuelization change public attitudes towards immigrants in Colombia? To answer this

question, we conducted a Difference in Difference statistical analysis, allowing us to estimate the causal effect of Petro's presidency on public attitudes towards immigration as a whole.

Data Sources

We primarily used data from Latinobarómetro, an annual survey with data from ~20,000 respondents from 18 different countries based in Santiago, Chile. The research is a culmination of work by several groups, including international government organizations, such as the UN Development Program, World Bank, InterAmerican Development Bank, as well as Chilean non profit organizations for public service. According to the methodology report for the 2023 published by Latinobarometro, the interviews were conducted face to face interviews in 17 countries between February 20th to April 18. The sampling and execution of the interviews were through established pooling houses in each country. The interviews were applied in two blocks. The first group of countries: Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, Mexico, Peru, Uruguay and Venezuela, the field work was done between February 20 and April 1. The second group: Costa Rica, El Salvador, Guatemala, Honduras, Panama, Paraguay and the Dominican Republic, the interviews were conducted between March 25 and April 18. In ten countries of South America and Mexico, samples of 1,200 representative cases of each country were applied to citizens aged 18 and over (16 years in Brazil), and samples with 1,000 cases in the five Central American countries and the Dominican Republic. In total, 19,205 interviews were applied in 17 countries. With a 95% confidence level, the margin of error for national samples is between +/-2.8 and +/-3.1%, which implies that the survey results are expected to reflect the views of the total population. All countries had a 100% representativeness in their sample (referring to sample representing the general population distribution) except for Argentina, Venezuela, Honduras and Panama.

In the data preprocessing phase, several steps were undertaken to clean and structure the Latinobarómetro datasets for analysis. For each year's (2018, 2020, 2023) dataset, specific variables of interest were selected. The variables chosen are relevant to the research questions concerning socio-economic indicators, political preferences, and demographic information. For example, in the 2018 dataset, we selected variables like age, sex, social class self-assessment, and opinions on immigration. Similarly, the 2020 and 2023 datasets included variables related to political opinions, social class, and demographic characteristics. These variables were renamed to ensure they were consistent across all datasets. Variables such as "NUMINVES" (survey number) were renamed to more meaningful terms such as "survey_year" and "country". Other variables like "P42NC" (citizenship) and "S16" (social class as assessed by the interviewer) were similarly renamed to ensure clarity and consistency across the years. Next, the three datasets were merged using a full join, allowing for a unified dataset with all common variables. This merge was based on key identifiers such as "survey_year," "country," and demographic characteristics like "age," "sex," and "social class". We restricted our analysis to respondents who were citizens of the country in which they were interviewed, excluding any non-citizen respondents from both the treatment and comparison groups. We turned year into a categorical variable, ensuring that the final models would analyze them separately. Country codes were mapped onto their respective country names. Finally, we binarized the outcome variable, with "1" representing respondents who believe that immigration is harmful for Colombia.

We supplemented this by creating an aggregate dataset containing country data from the United Nations Economic Commission for Latin America and the Caribbean (ECLAC) on the socioeconomic conditions from all countries in Latin America. We queried data from 2018 to 2023 with information on the poverty rates, net immigration rates (including emigration),

employment rates, and employment anxiety rates, although the latter was not included in the final DiD analysis. We believe that these variables are valuable indicators of the socioeconomic conditions of the country that might impact willingness to receive immigrants. As these public datasets were sourced to be ready for analysis, they were easily merged.

Methods

We began by creating a Directed Acyclic Graph (DAG) plot to identify any potential causal relationships and dependencies between the factors influencing general public perceptions towards immigration (see Figure 1). The model includes key socio-demographic variables, such as "Urban/Rural" and "SELFsocial_class" which are hypothesized to influence individuals' political ideology and their relation to immigrants. Political ideology and confidence in the president in office at the time of the survey were also considered important mediators of public opinion on immigration. The model captures direct and indirect relationships, with variables like political ideology and relation to immigrants acting as mediators, and the broader political environment potentially reinforcing or modifying these factors.

De-Venezuelization Policies, the exposure variable, are linked to the outcome, opinion towards immigration, to assess the impact of this new government approach towards immigration. Socio-demographic factors like Urban/Rural and Socioeconomic status influence political ideology and personal views on immigrants, which in turn shape opinions. Unobserved variables, the ethnoracial backgrounds of both nationals and immigrants, capture the role of ethnic background in shaping these views. Respondents' political ideologies and their personal relationship to immigration may influence the effect of these factors on public opinion (Holland 2024). National conditions under both Duque and Petro reflect how shifts in leadership and government influence attitudes toward immigration.

Figure 1: "Demographics, Ideology, and Political Conditions on Opinion Towards Immigrants"
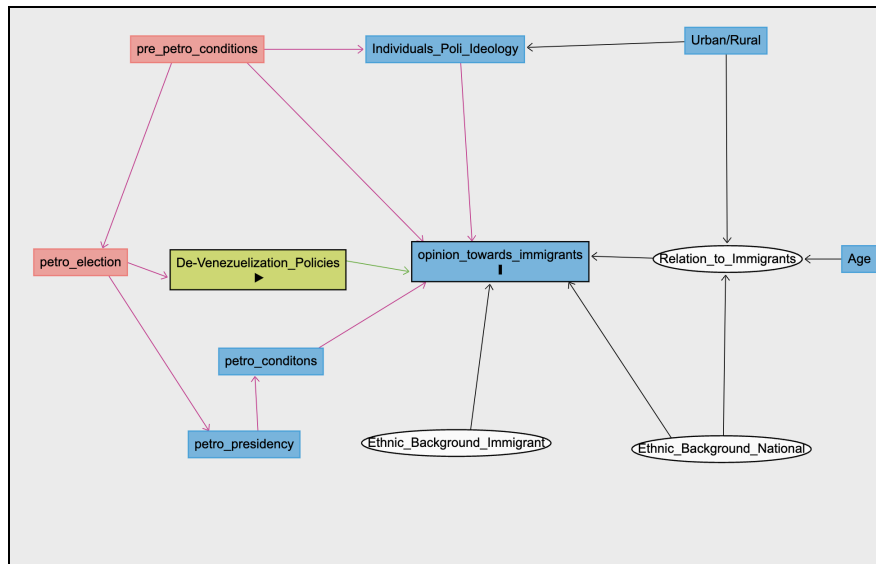
In order to compare the impact of Petro's presidency and his new approaches, we made sure to select appropriate controls for the DiD. These control countries must share similar socio-political and economic characteristics with Colombia, but without undergoing similar policy changes under a new president like Petro. This allowed us to isolate the effects of Petro's policies on Colombian perceptions while controlling for broader regional trends, such as economic shifts or general immigration patterns. As such, we are better able to attribute any observed changes in Colombian attitudes towards immigration to Petro's specific policies rather than larger confounding factors and trends.

To do so, we used the socio-economic conditions from ECLAC to assess these variables' impact on social and economic trends in Latin America, specifically focusing on the poverty rate, unemployment anxiety, average unemployment, and immigration rates. The control variables were selected based on their relevance to the research question and the availability of comparable data across countries. We began the process of choosing countries by creating a set of line plots, trying to visualize how Colombia was compared to other countries (see Appendix A - D).

However, since these visualizations were hard to interpret, and there were no clear similar countries, we decided to calculate similarities instead.

We applied different weights to each variable, reflecting their relative importance. For instance, immigration rate was assigned a higher weight (3) due to its perceived significance in understanding socio-economic dynamics, while other variables such as poverty rate and unemployment anxiety were weighted equally (1). We adjusted these weights over time to account for changes from year to year through the use of multiplication, with more weight being placed on more recent conditions. We then calculated the Euclidean distances between each country's variables and Colombia's average, allowing us to identify countries with social-economic profiles similar to Colombia. With this, we were able to identify the six countries with the most similar conditions to Colombia– Brazil, Costa Rica, El Salvador, Ecuador, Honduras, and Paraguay (see Table 1).

Table 1. Countries with Socio-Economic Profiles Similar to Colombia

Country	Euclidean Distance
Colombia	-
Brazil	48.6
Costa Rica	51.1
El Salvador	83.8
Ecuador	63.2
Honduras	57.6
Paraguay	49.5

Once we chose our control countries, we began our causal analysis with a Difference-in-Difference technique. This method allowed us to isolate Petro's impact and his new policies by comparing them to similar countries without these changes. We modified the dataset to include three new variables: "treated," which assigns a value of 1 for Colombia and 0

for other countries; "post," which marks years after 2020 as 1 and earlier years as 0; and "did," an interaction term that combines the treatment and post variables. These variables are necessary in order to specify the DiD models. Finally, we created four logistic regression models, each specified differently, and compared their results by using their Akaike Information Criterion scores, allowing us to identify how well each model performed as compared to the others (see Table 2 in Results).

Results

To ensure the robustness of our Difference-in-Differences (DiD) findings, we conducted a series of sensitivity analyses by varying the set of control variables included in the model. Initially, we started with a simpler specification that included only the main DiD terms (treated, post, and the treated×post interaction) along with key socioeconomic indicators (e.g., poverty rate, unemployment measure, and immigration rate). This baseline model provided a reference point for our subsequent tests.

Subsequently, we incrementally introduced additional key variables, such as trust in the presidency (presi_leading), political ideology (left_right), geographic context (urban_rural), and self-assessed social class (SELFsocial_class). By systematically adding these factors, we examined how their inclusion affected the DiD coefficient's magnitude, significance, and the model's overall fit. If the primary findings (i.e., the sign, direction, and general magnitude of the DiD coefficient) remained relatively consistent across these alternative specifications, it would indicate that our results are not overly sensitive to the omission or inclusion of these particular controls. Conversely, any substantial shifts in the estimated treatment effect upon introducing

these variables would highlight the importance of considering these political and social dimensions in interpreting the causal impact of Petro's rhetoric.

Table 2 summarizes the results, including the DiD coefficient, its exponentiated value (indicating the effect in multiplicative terms), statistical significance, and model fit as measured by the Akaike Information Criterion (AIC).

Table 2. Results of DiD (each model incrementing off the previous)

Model	Model Specification	DiD Coefficient	Exponentiated DiD Coefficient	p Value	AIC
M1	Social variables	0.3984	1.489439687	2.25E-07	46761
M2	Included Temporal Aspects	0.24883	1.282523985	0.0557	45375
M3	Included Political Ideologies	0.313016	1.367543412	0.0275	36411
M4	Included Geographic Details	0.337615	1.401600783	0.01759	36321

Model 1 serves as the baseline specification, including only socio-demographic variables and national conditions to define the comparison group. The DiD coefficient for this model is statistically significant (β = 0.40, p < 0.001), suggesting a strong effect of the intervention (President Petro). This baseline result provides a starting point for understanding how socio-demographic factors contribute to the observed differences. The exponentiated DiD coefficient (1.49) implies that the Petro presidency has increased the odds of a negative perception towards immigration by approximately 49%, when holding all these base factors constant. However, it has the highest AIC, indicating that it is the worst fit of all the models.

Model 2 included year specific interactions to capture temporal trends and assess whether the observed effects are sensitive to changes over time. The inclusion of these temporal variables reduces the magnitude of the DiD coefficient (β = 0.25) compared to M1, and its significance was just under the significance threshold (p = 0.056). This reduction in both magnitude and significance suggests that a portion of the initial observed effect is explained by temporal dynamics, emphasizing the importance of accounting for shifts in broader social or

political contexts when analyzing intervention effects. While the model's AIC decreases substantially from 46761 to 45375, indicating an improved fit, the slightly higher p-value highlights greater uncertainty in the estimate.

Model 3 (M3) adds covariates including trust in the current presidency, self-assessed social class, and self-reported political affiliation on the left/ right axis. This furthered the models specification by beginning to capture how individual political ideologies intersect with the intervention. The DiD coefficient remains statistically significant ($\beta = 0.31$, $p = 0.028$), though it is smaller than in M1, showing the sensitivity of the causal estimate to additional controls. The AIC for this model decreased significantly to 36411, showing that the inclusion of these variables substantially improves the model's explanatory power. The exponentiated DiD coefficient (1.37) indicates that the intervention increases the odds of the outcome (negative perception towards immigration) by approximately 37%.

Finally, Model 4 incorporates geographic details of the respondents by including whether or not they live in an urban area of Colombia. This model continues to produce a statistically significant DiD coefficient ($\beta = 0.34$, $p = 0.018$), with a slight increase in magnitude compared to M3. The AIC decreased slightly to 36321, being the most explanatory model of the four. At the same time, the magnitude of the DiD rose, indicating that the intervention increases the odds of the outcome by 40%.

In summary, the four models show a significant association between the DiD and a negative perception towards immigration. As such, we believe that there is a causal effect of Petro – and what we understand as his process of de-Venezuelization – on perceptions of immigration, with more negative perceptions as a result. However, it must be noted that these models had significant fluctuations in what they consider to be the magnitude of this effect, being somewhere

between a 30 to 50 percent increase in the odds of a respondent holding a negative view. Given these inconsistencies, we are not fully aware of the true extent of his presidency, rhetoric, and policies regarding immigration.

Discussion

Ultimately, our findings suggest that President Petro's approach – characterized by changes in rhetoric and policies aimed at distancing Colombia from its association with Venezuelan immigrants – has played a significant role in shaping more negative attitudes toward immigration. Across all models, we observed an increase in the likelihood of negative perceptions, ranging from 30% to 50%. While we expected to see a rise in such attitudes, the extent of the change was greater than anticipated.

However, our confidence in the exact magnitude of this effect is diluted by some inconsistencies across models. As we incorporated additional covariates—such as temporal dynamics, political ideologies, and geographic context—the magnitude of the DiD effect varied significantly. While the intervention's effect remained statistically significant in all but one model (M2), the fluctuations make it clear that our model is very sensitive. This variability suggests that while Petro's presidency has likely exacerbated negative perceptions, the precise extent of his influence remains uncertain.

As such, we acknowledge other limitations that should be addressed in this conclusion. First, while our theoretical framework and analysis emphasizes Venezuelan immigrants as the primary focus of de-Venezuelization rhetoric, our data captures perceptions of immigration more broadly, making it difficult to isolate Venezuelan-specific effects.

Second, the dataset itself is limited. We were unable to include more granular information about respondents, such as their exposure to media narratives or direct experiences with

migrants, which likely play a crucial role in shaping perceptions. Additionally, there are many unknown factors that we could not account for, such as broader social conditions, local political dynamics, or personal interactions with migrants. While we see that Petro's presidency and rhetoric are key drivers of the observed changes, they are undoubtedly not the only explanation.

To address these limitations, future research should aim to include more specific variables that can better isolate the effects of de-Venezuelization policies on attitudes toward Venezuelan migrants. For example, incorporating data on individual media consumption, local migration patterns, and exposure to government policy could provide more complete insights into the factors driving public opinion.

At the same time, future studies should examine local-level dynamics. While our analysis captures broad national trends, investigating municipal or departmental variations would show how local governments, social service strain, and local media narratives mediate or amplify the impact of Petro's policies. As we mentioned in the literature review, the gaps in national coordination have been left to local governments to fill, straining localized systems. Especially in our study, the absence of representation from most border cities between Colombia and Venezuela meant losing a very valuable perception from respondents that would have been more likely to interact with Venezuelan immigrants than other regions. Including media sentiment analysis at both national and local levels could further clarify the role of national policies, especially if supplemented with information about what local policies exist, and what needs there are.

Finally, and perhaps most importantly, this analysis would benefit from being replicated several years after Petro's presidency to capture the full effects of his policies and rhetoric over

time. Longitudinal data could help distinguish temporary fluctuations from enduring shifts in public sentiment.
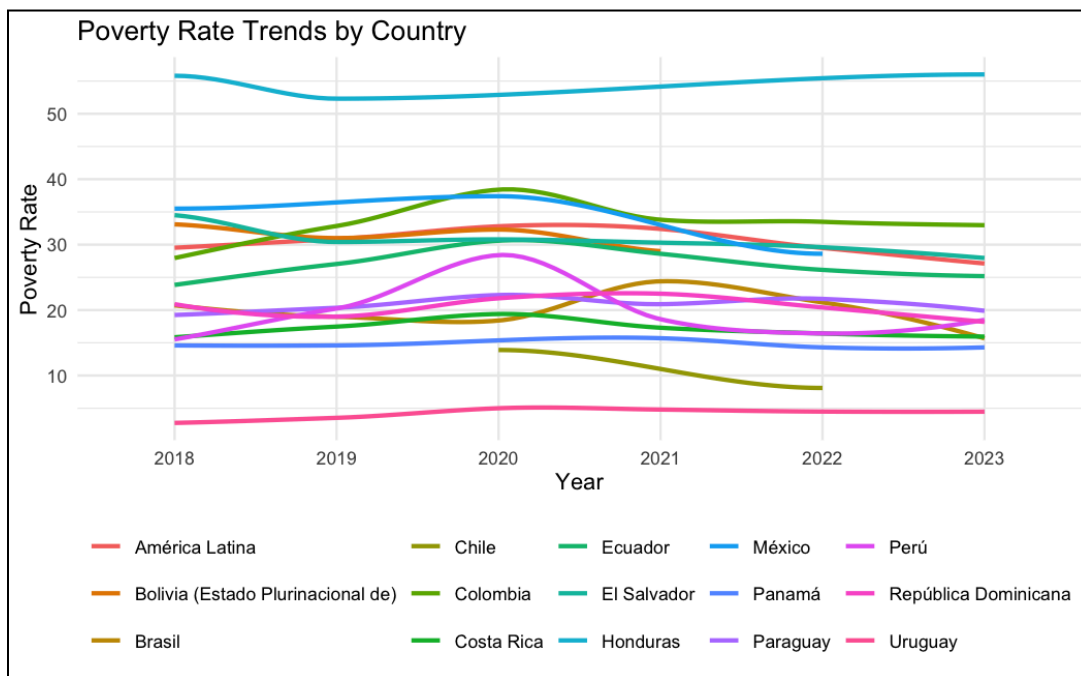
Bibliography

Bank, Inter American Development, and Organization for Economic Cooperation and Development. 2021. "Migration Flows in Latin America and the Caribbean: Statistics on Permits for Migrants." IDB Publications. doi: 10.18235/0003665.

Blalock, Hubert M. 1967. Toward a Theory of Minority-Group Relations. New York, Wiley.

Holland, Alisha, Margaret E. Peters, and Yang-Yang Zhou. 2024. "Left Out: How Political Ideology Affects Support for Migrants in Colombia." The Journal of Politics 86(4):1291–1303. doi: 10.1086/729943.

Jackson, Joshua L., and Douglas B. Atkinson. 2019. "The Refugee of My Enemy Is My Friend: Rivalry Type and Refugee Admission." Political Research Quarterly 72(1):63–74. doi: 10.1177/1065912918776136.

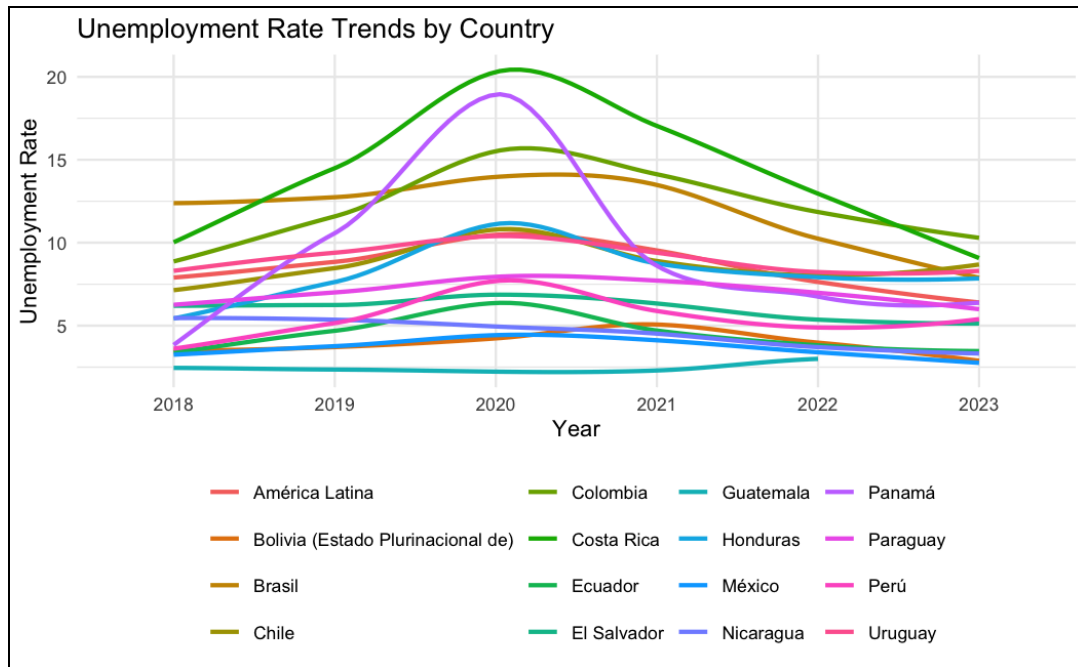Joslyn, Pearl. n.d. "US Refugee Policy: Latin America and Cold War Interests By: Pearl Joslyn."

Lebow, Jeremy, Jonathan Moreno Medina, and Horacio Coral. 2020. "Immigration and Trust: The Case of Venezuelans in Colombia." SSRN Electronic Journal. doi: 10.2139/ssrn.3660641.

Merton, Robert K. 1936. "The Unanticipated Consequences of Purposive Social Action." American Sociological Review 1(6):894–904. doi: 10.2307/2084615.

n.d. "Latinobarometro." Retrieved November 13, 2024 (https://www.latinobarometro.org/latContents.jsp).

n.d. "Venezuelan Migrants Drive USD 529.1M Boost to Colombia's Economy: IOM Study." International Organization for Migration. Retrieved November 8, 2024 (https://www.iom.int/news/venezuelan-migrants-drive-usd-5291m-boost-colombias-economy-iom-study).

Sánchez Cabarcas, Fabio, and Alejandro Cardozo Uzcátegui. 2024. "Colombian Foreign Policy and Public Opinion in Electoral Campaigns." Araucaria: Revista Iberoamericana de Filosofía, Política, Humanidades y Relaciones Internacionales 26(56):111–37.

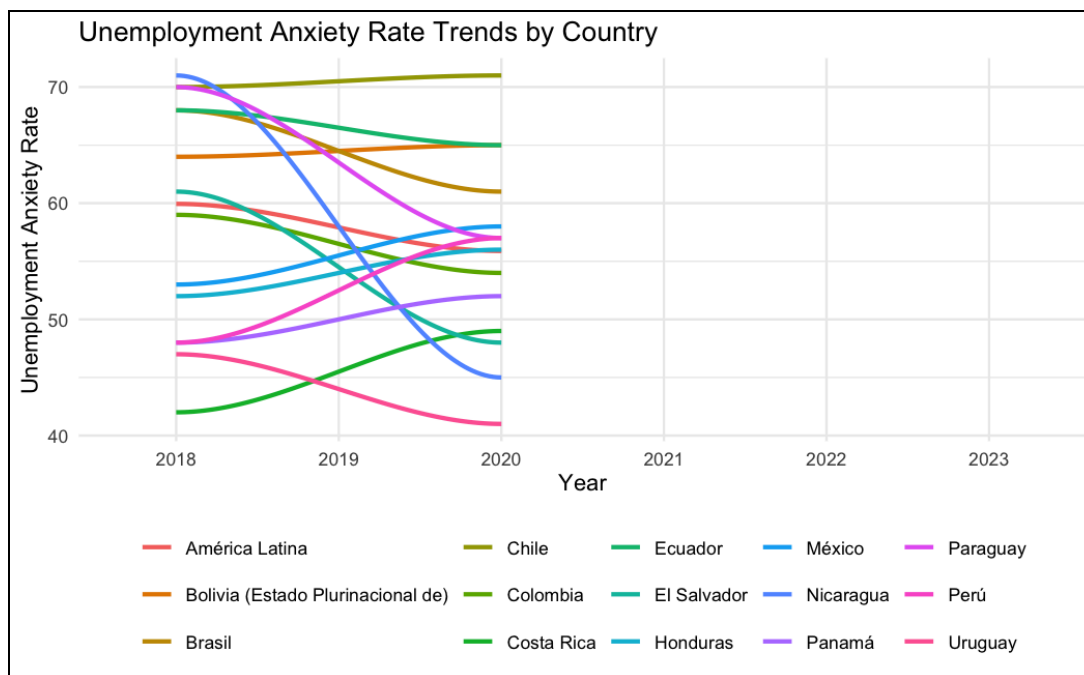Villamizar, Sofia. 2021. "The Integration of Venezuelan Migrants in Colombia." Thesis.

Appendix A

Poverty Rate Trends by Country

Appendix B

Unemployment Rate Trends by Country

Appendix C

Unemployment Anxiety Rate Trends by Country

Appendix D

Net Immigration Rate per 1000 people by Country